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An Activity Based Costing analysis of the Department of the Navy's Enlisted Detailing Process

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Monterey, California



THESIS

**AN ACTIVITY BASED COSTING ANALYSIS OF THE
DEPARTMENT OF THE NAVY'S ENLISTED DETAILING
PROCESS**

by

Richard J. Schlegel

December 2000

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**AN ACTIVITY BASED COSTING ANALYSIS OF THE DEPARTMENT OF THE
NAVY'S ENLISTED DETAILING PROCESS**

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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

**NAVAL POSTGRADUATE SCHOOL
December 2000**

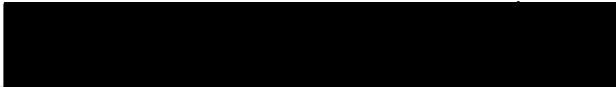
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ABSTRACT

The Navy Personnel Command assigns over 100,000 Sailors annually utilizing in excess of 200 Detailers. Negotiations commence between Sailor and Detailer via telephone or email approximately nine months prior to the Sailor's expected rotation date from their current assignment. One method to examine where inefficiencies could exist in a process is to conduct an Activity Based Costing (ABC) study. The Activity Based Costing technique measures the cost of specific activities performed by an organization in producing a product or service. This thesis examines the detailing activities of the Administrative, Deck and Supply Rating Branch at the Navy Personnel Command in Millington, Tennessee and assigns relevant costs to the activities performed by a Detailer when assigning Sailors to their next duty station. The findings of the analysis are that approximately 75 percent of a Detailer's available time is used in direct or indirect detailing activities. Depending on the paygrade of the Detailer, this equates to an annualized cost between \$33,112.76 and \$47,853.70 per Detailer. The Detailer spends 25 percent of their time in non-detailing related activities that equates to an annualized cost between \$10,755.10 and \$15,519.55 per Detailer.

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I. INTRODUCTION

A. OBJECTIVES

The Navy Personnel Command assigns over 100,000 Sailors annually using in excess of 200 Detailers. The negotiations that occur between a Sailor and Detailer are usually conducted via telephone, a Detailer initiated naval message, or an email initiated from either Detailer or Sailor, beginning approximately nine months prior to the Sailor's planned rotation date from their current assignment. This labor-intensive process can lead to inefficient utilization of time and other resources.

One method to examine where inefficiencies may exist in a process is by conducting an Activity Based Costing (ABC) study. Activity Based Costing is a technique that quantifies the resources consumed by performing an organization's activities to produce a product or service. The actual functions or activities performed in producing a unit of output are analyzed and costs allocated to each of these steps or activities based on an appropriate common element or cost driver, usually time spent performing a step in the process.

This research evaluates the costs associated with the enlisted detailing function in the Department of the Navy. The objective is to allocate the relevant costs associated with the detailing process at the Navy Personnel Command (NAVPERSCOM) to specific detailing activities performed while assigning Navy personnel. Specifically, this thesis will identify the various value-adding and non-value-adding activities a Detailer performs and estimate the costs attributable to each of these activities. This research is being provided for the Navy Personnel Command's Navy Personnel Research, Studies and Technology (NPRST) Office (PERS-1).

B. RESEARCH QUESTIONS

The primary research question is:

- Where resources are consumed by a Detailer in assigning a Sailor to their next duty assignment and what costs are incurred for each activity the Detailer performs in this process?

Supporting or secondary research questions include:

- What is the current process by which a Sailor is assigned to their next duty station?
- What functions or activities does the Detailer perform in their assignment role?
- How much time is utilized with each of the identified activities?
- What are the relevant direct and indirect costs incurred by the Department of the Navy to perform its detailing function?
- How much does each of the identified activities cost the Department of the Navy annually?

C. SCOPE, LIMITATIONS, AND ASSUMPTIONS

This thesis will review current personnel assignment procedures, collect detailed information from NAVPERSCOM Detailers regarding the activities they perform in executing their portion of the Navy's assignment process, collect cost data from NAVPERSCOM and Naval Support Activity (NSA) Mid-South Resource Management Office, estimate personnel costs using the Cost of Manpower Estimating Tool (COMET), and allocate indirect costs to the assignment function at NAVPERSCOM. In addition, a concluding discussion will examine the results of the data collection and analysis and how certain costs may be avoidable or reduced through process improvement.

Fiscal year 1999 financial data is utilized unless otherwise noted. Given the limited time available for this thesis, the research is limited to one department of NAVPERSCOM's Enlisted Assignment Division (PERS-40). Specifically, it examines the processes and cost data collected from the Administrative, Deck, and Supply Rating Branch (PERS-405). This presumes that the detailing processes used in one rating area are similar to other rating areas.

D. METHODOLOGY

This research reviews the Department of the Navy's Distribution Management Control System and activity based costing procedures, collects data about detailing process activities and the cost of the resources consumed by NAVPERSCOM, and analyzes the available data.

A review of the Department of the Navy's Distribution Management Control System was conducted by consulting government instructions and regulations, journal articles, and the Bureau of Personnel (BUPERS) manpower tutorial. The review of activity based costing methodology consisted of managerial accounting textbooks, journal articles, and government publications.

Data collection regarding the enlisted detailing process consisted of interviews and a survey instrument (Appendix) developed to determine the frequency and amount of time Detailers perform identified functions or activities. Cost data was received from NSA Mid-South Resource Management Office, the Navy Center for Cost Analysis' COMET software program version 2.0, and from supporting departments of NAVPERSCOM.

The analysis phase of the research presents the process and cost data separately and then combines the two sets of data to draw conclusions on where resources are being

consumed. This analysis will support conclusions as to potential cost savings from eliminating non-value adding functions from the detailing process.

E. ORGANIZATION OF THESIS

Chapter II provides a background of the Distribution Management Control System, the organization of the Naval Personnel Command, the role of the Detailer, Department of the Navy Assignment Policy, the conceptual framework surrounding Activity Based Costing (ABC), and the process of conducting an ABC study.

Chapter III presents the data collected through the survey instrument and interviews concerning the functions or activities Detailers perform and the time occupied with each. The second section provides the cost data collected from Naval Support Activity Mid-South, NAVPERSCOM, and calculated from other tools or from logical assumptions.

Chapter IV combines the Detailer activity data with the cost data to model how resources are consumed in various detailing activity cost pools.

Chapter V draws final conclusions from the information presented, and recommends topics for future research.

II. BACKGROUND

A. THE DISTRIBUTION MANAGEMENT CONTROL SYSTEM

The Department of the Navy utilizes a labor-intensive process when assigning personnel to their next duty assignment, called the Distribution Management Control System. The Navy Personnel Command (NAVPERSCOM) executes and provides oversight for this system. The assignment or detailing process is one of three elements of this System that consists of allocation control, manning control or placement, and assignment control. Although they appear in Figure 1 as separate functions, they are all interrelated and a breakdown in one function will affect the other two.

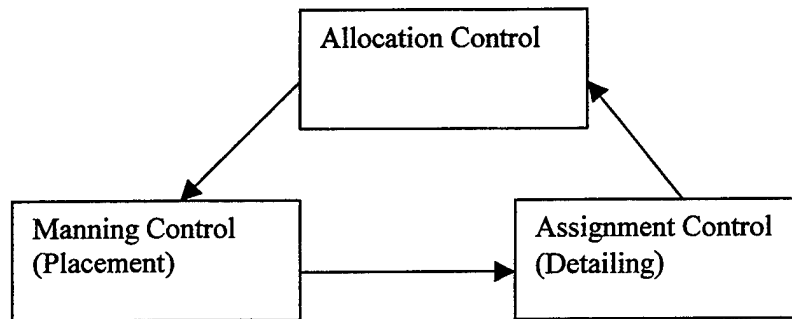


Figure 1. The Distribution Management Control System

1. Allocation Control

Allocation Control is the process of fairly distributing available personnel resources across competing users in an environment where authorized billets generally exceed available personnel. Allocation is performed by NAVPERSCOM for all designated strikers (non-rated personnel who have passed the rating exam but without a high enough score to advance in pay grade) and petty officers. This thesis focuses on these pay grades. The Enlisted Placement Management Center (EPMAC) performs allocation for all non-rated personnel or pay grades E-1 to E-3 (Enlisted Transfer Manual,

p. 1-1). The Enlisted Distributable Projection System (EDPROJ) is the primary analytical tool used in the allocation process. The ultimate goal of the allocation process is to equitably share personnel among the existing requirements that are competing with each other to get the best Sailor (BUPERS (PERS-1) Web Page). This is accomplished by ensuring personnel are sent to the lowest manned MCA until it is filled to the same level as the next lowest, based on the projections generated monthly by EDPROJ. These projections may or may not be true later down the distribution timeline based on how the Detailers fill available billets for their rating pay grade (Enlisted Distribution Overview Study Guide, p. 52).

2. Manning Control and Placement

Manning involves determining the quality, quantity, and priority for assigning personnel to billets. Placement is the function of communicating unit personnel vacancies to the three Assignment Control Authorities (ACAs), to be discussed in the next subsection, and directing the order in which these vacancies are to be filled by Sailors with the required training at the right time. This is accomplished initially through allocation by determining how many sailors within each distributable community, rating or Navy Enlisted Classification Code (NEC) for a particular subspecialty, are expected to transfer in the next seven to nine months and then filling those billets with available personnel that meet the rating or skill requirements. EPMAC, in its placement or manning control role, then develops the Navy Manning Plan (NMP) which shows each command what their fair share of personnel assets are for each rating and/or NEC. The priority as to how these billets are filled is depends upon the MCA and its prioritizing of units under their authority based on operating schedule, unit location, etc. (Enlisted Distribution Overview Self-Study Guide, p. 54).

The four Manning Control Authorities (MCAs) that execute Manning Control are Commander, NAVPERSCOM (COMNAVPERSCOM) for continental U.S. billets; Commander, Naval Reserve Force (COMNAVRESFOR) for continental U.S. billets concerned with training Naval Reserve personnel; Commander in Chief U.S. Atlantic Fleet (CINCLANTFLT) for all units in the Atlantic Ocean operations area; and, Commander in Chief U.S. Pacific Fleet (CINCPACFLT) for all units in the Pacific Ocean operations area. (Enlisted Transfer Manual, p. 1-1 through 1-2). The Active Readiness Information System (ARIS) and Enlisted Assignment Information System (EAIS) are the primary information systems used by the placement officer in the manning and placement process. (BUPERS Web Page (PERS-1))

3. Assignment Control - Detailing

Assignment Control, also known as "detailing," is the final step of the Distribution Management Control System triad. This step is the focus of this thesis, and specifically involves selecting and detailing, or ordering, individuals to fill billets in accordance with manning levels and priorities determined by the appropriate MCA and communicated by EPMAC. This process can be stated as matching a Sailor with a job assignment based on the Navy's needs, the Sailor's needs, and the Sailor's preferences. This matching process must consider the skills, experience and seniority of the Sailor with the skills, experience and seniority required for the job. In addition, there can be a multitude of rules, regulations and policies that govern the eligibility for a Sailor's assignment.

There are three Assignment Control Authorities (ACAs) to perform the assignment control function. They are NAVPERSCOM for designated strikers and rated petty officers, Naval Reserve Personnel Center (NAVRESPERSCEN) for all enlisted

Training Active Reserve (TAR) personnel, and EPMAC for all non-rated personnel. (Enlisted Transfer Manual, p. 1-2). The Navy's assignment process is called "centralized detailing."

The Detailer is made aware of MCA priorities through the Requisition Report generated by EPMAC. This report usually circulates every other Monday and supersedes the previous report. This report is based on the NMP format; it classifies billets by rating and/or NEC, priority of billet, and when the billet needs to be filled. Since priorities of the MCAs will change after being communicated to EPMAC, the billets or requisitions change on this report. Requisitions filled since the last reports are deleted from the most recent report (Enlisted Distribution Overview Self Study Guide, p 58).

Figure 2 summarizes the flow of information through the three functions of distribution management to accomplish the ultimate goal of putting the right sailor in the right job at the right time (Enlisted Distribution Overview Self-Study Guide, p. 53).

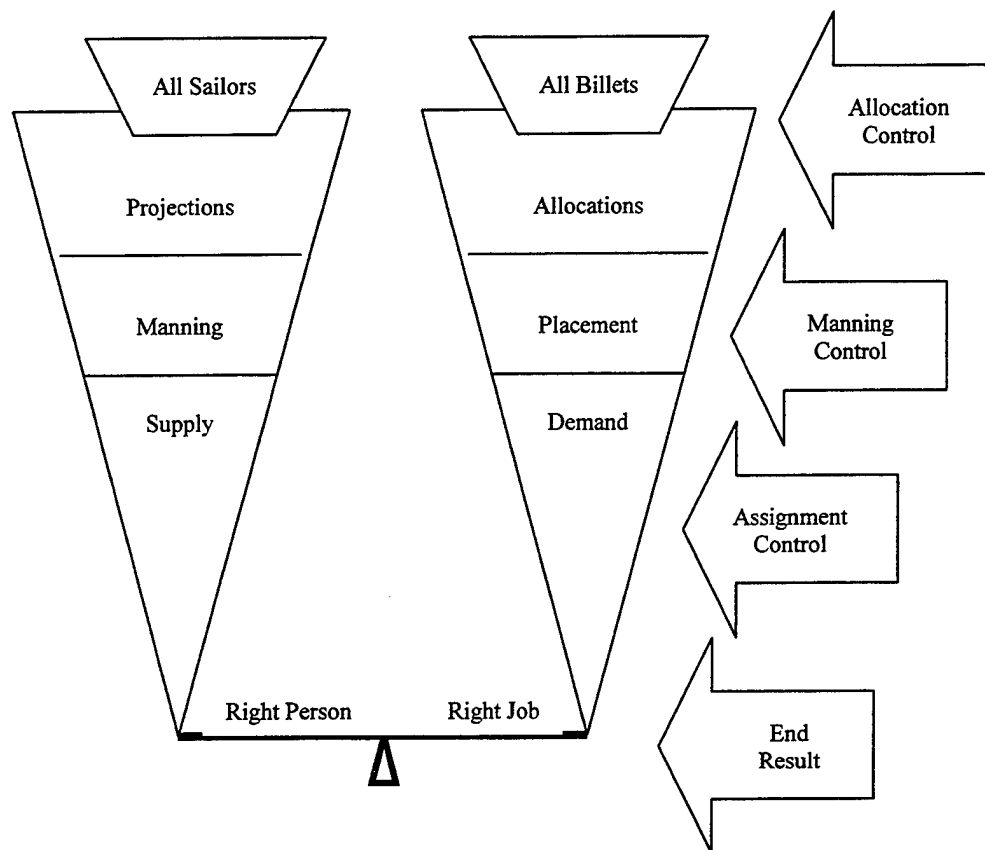


Figure 2. "The Right Person in the Right Job at the Right Time"
From: *Enlisted Distribution Overview Self-Study Guide*

4. Support of the Distribution Management Control System

Various information support systems have been established to support the allocation, distribution and assignment functions. The goal of these systems is to provide useful data for personnel managers to allocate available sailors to the Manning Control Authorities (MCAs). In addition, they assist in distributing personnel within the MCA's units or commands and measure a unit's requirements for specific skills and experience to establish the assignment priorities (Enlisted Transfer Manual, p. 1-2).

a. The Projection System

The projection system predicts how many personnel in each rating or skill group will be available nine months into the future and allocates these personnel equitably. Personnel with similar skills, ratings or Navy Enlisted Classification Codes

(NECs) are categorized in "Distributable Communities." The Navy Personnel Command's Distribution Management, Allocation, Resources and Procedures (PERS-45) Department, which reports to the Assistant Commander Navy Personnel Command for Distribution (PERS-4), manages these distributable communities (Enlisted Transfer Manual, p. 1-2).

b. The Navy Manning Plan (NMP)

The NMP determines how shortages and excesses within a distributable community are most equitably allocated to the various commands within a MCA. Therefore, the NMP provides an activity's fair share of personnel with particular skills. The actual number of billets authorized may be greater or less than this amount. The actual manning can either be "Normal" or "Directed." Normal Manning is when the NMP for an activity represents their "fair share" of predicted personnel for its MCA. Directed Manning indicates that the CNO or MCA has designated the billet to be manned at a level other than normal manning. The constraints of the normal manning are that activities with the same number of billets will receive the same total manning plan, that activities with the same billet-pay grade structure will have the same manning plan in terms of pay grade, and deviations to this pay grade manning plan are only allowed plus or minus one pay grade in relation to the pay grade indicated in the plan. Periodic reviews and changes to MCA manning plans have a nine month effective date lag period; this is imposed to enable Detailers to allow for normal attrition to account for decreases in the plan or to detail new personnel if planned manning increases (Enlisted Transfer manual, pp. 1-4 through 1-5).

c. Personnel Requisition System

The Personnel Requisition System is the vehicle by which the MCA communicates its activities' needs, in terms of both quantity of personnel and quality or skills of personnel to the ACA, usually NAVPERSCOM. This system calculates activity personnel needs and brings the unit up to its manning plan levels. If additional personnel become available due to a Navy-wide excess of a rating or NEC, then the activity may be manned from the planned level, their "fair share," to the full number of billets authorized.

The personnel requisition system also allows the MCA to communicate to the Assignment Control Authority the sequence in which their requisitions are to be filled. The requisitions are determined by comparing the activity's personnel requirements for the next nine months to the activity's NMP and billets authorized. The output of this process is a requisition for a rating and/or NEC specifying when the Sailor is required to report to the command. The requisition is coded as either a requisition to bring the activity to NMP level ("N" Requisition), to billets authorized ("A" Requisition), or to correct a pay grade imbalance ("P" Requisition). The priority of the billet or activity is determined by the CNO for Priorities 1 and 2 or the MCA for Priority 3 activities. (Enlisted Transfer Manual, pp. 1-5 through 1-6).

d. Distribution Management Control Support System Dynamics

The personnel distribution system is continually changing and therefore the accuracy and timeliness of personnel accounting is key to properly assigning personnel. Activities are provided a report titled the Enlisted Distribution Verification Report (EDVR) that is used by the command to compare the accuracy of the report and to communicate discrepancies to its MCA, EPMAC or NAVPERSCOM, depending on the nature of the discrepancy (Enlisted Transfer Manual, pp. 1-6 through 1-7).

B. THE NAVY PERSONNEL COMMAND (NAVPERSCOM)

1. Organization and Functions

NAVPERSCOM's organization is provided in Figure 3. The Commander, Navy Personnel Command is assisted by six Assistant Commanders Navy Personnel Command (ACNPC). This research focuses on activities performed under the jurisdiction of the ACNPC for Distribution (PERS-4), who is responsible for distribution policy and performance of all Navy personnel, enlisted and officer.

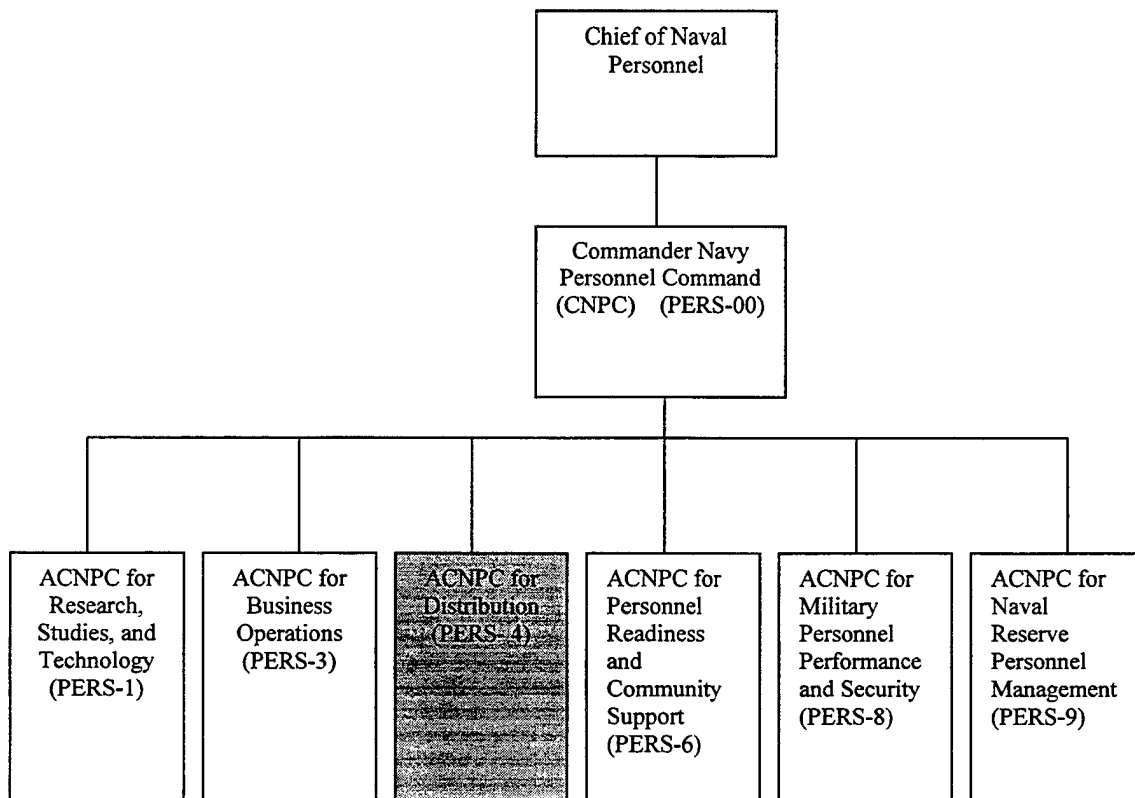


Figure 3. Naval Personnel Command/Bureau of Personnel

The ACNPC for Distribution (PERS-4) is responsible for six departments to manage the Navy's distribution functions. PERS-4's organization is shown below in Figure 4. This research project focused on a lower level of PERS-4, the Enlisted Assignments Division (PERS-40)

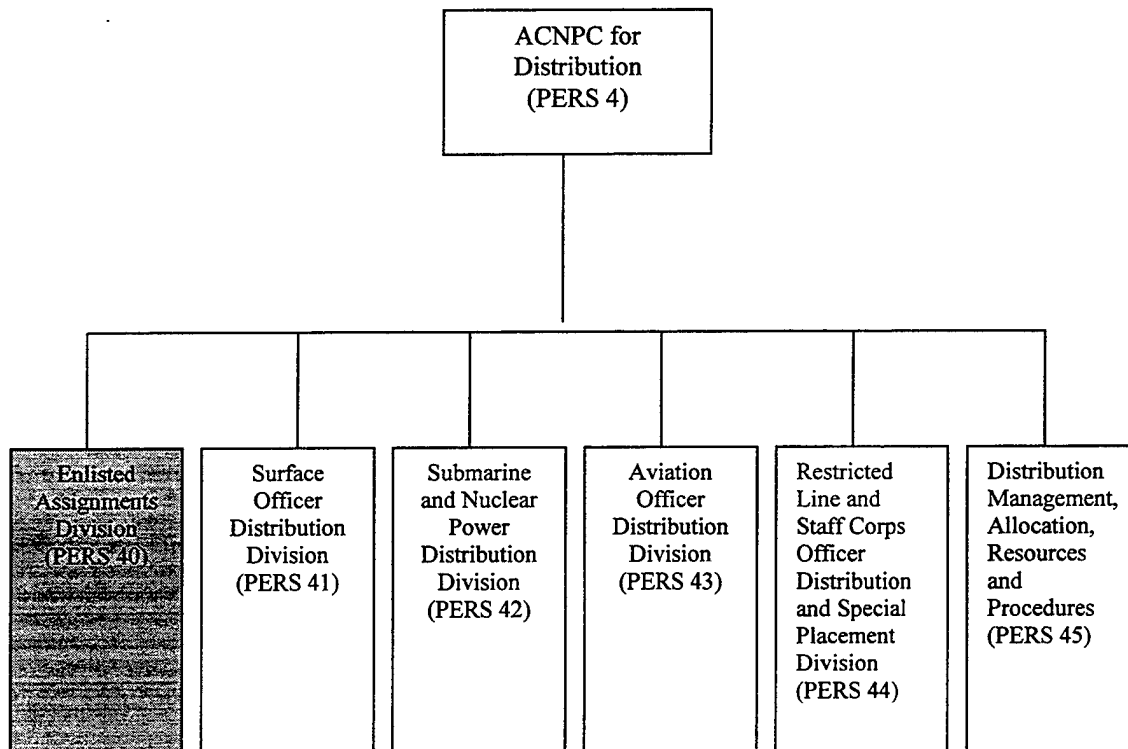


Figure 4. Naval Personnel Command Distribution Department (PERS 4)

The Director, Enlisted Assignments (PERS-40) has seven divisions working under its direct supervision for policy and procedural issues, and ten divisions that detail rated and designated-striker enlisted personnel. These seventeen areas of responsibility are shown below in Figure 5.

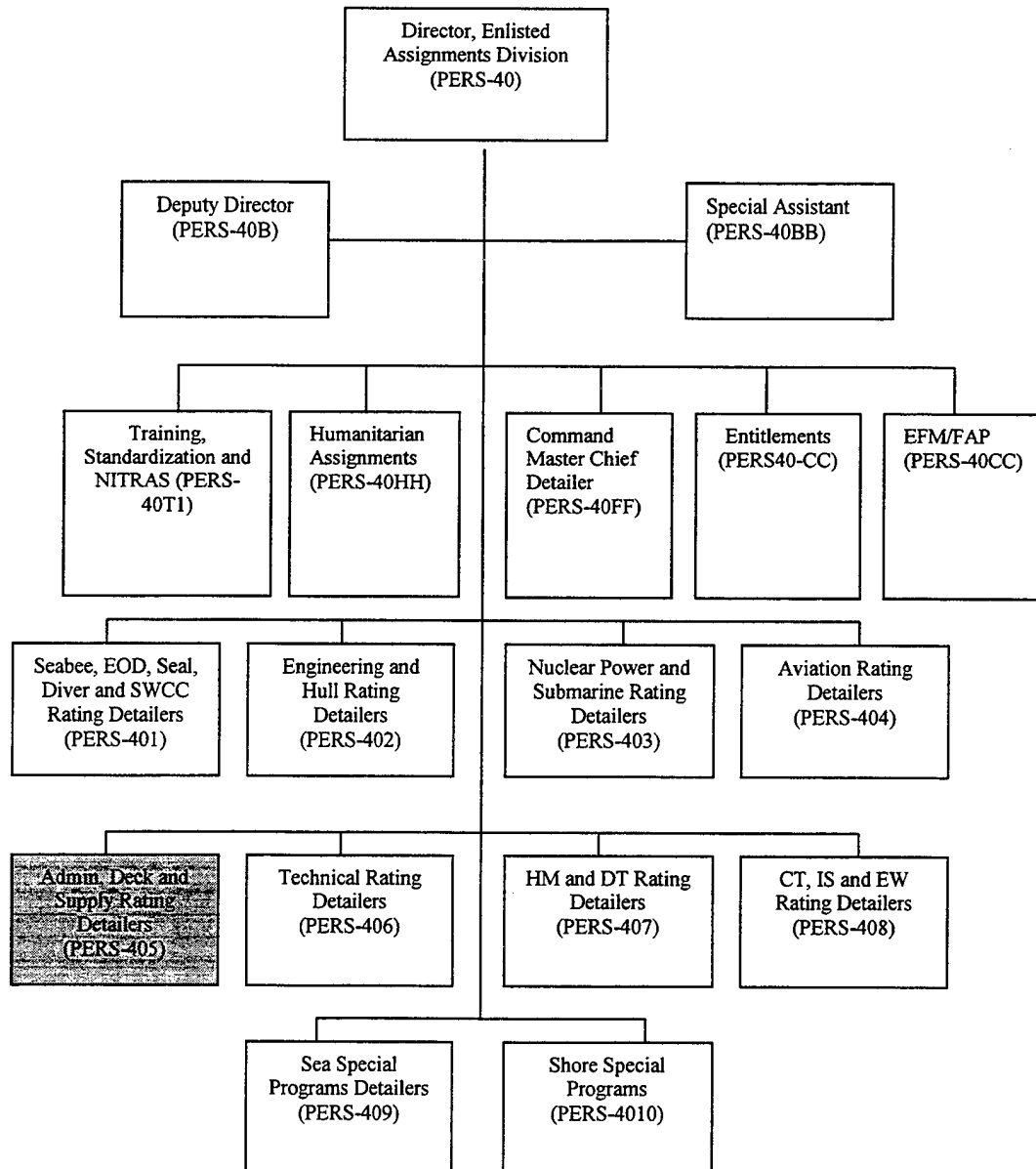


Figure 5. Enlisted Assignments Division (PERS 40)

The last level of the NAVPERSCOM organization is within one of the detailing divisions under the Enlisted Assignments Division (PERS-40), specifically, the Admin, Deck and Supply Rating Branch (PERS-405). This one division of PERS-40 employs three to four officers. These officers include the Branch Head and two to three Rating Assignment Officers (RAOs), each assigned to specific rating areas. In PERS-405, at the time of this study, one officer serves as the RAO for Administrative and Deck ratings and the other for Supply ratings. Within each of these rating groups, Detailers are assigned according to the pay grade of the personnel they detail. In small rating areas, one Detailer may detail constituents of all pay grades. There is a senior Detailer assigned per rating who reports to the respective RAO for their area. The PERS-405 organization is illustrated in Figures 6 through 9.

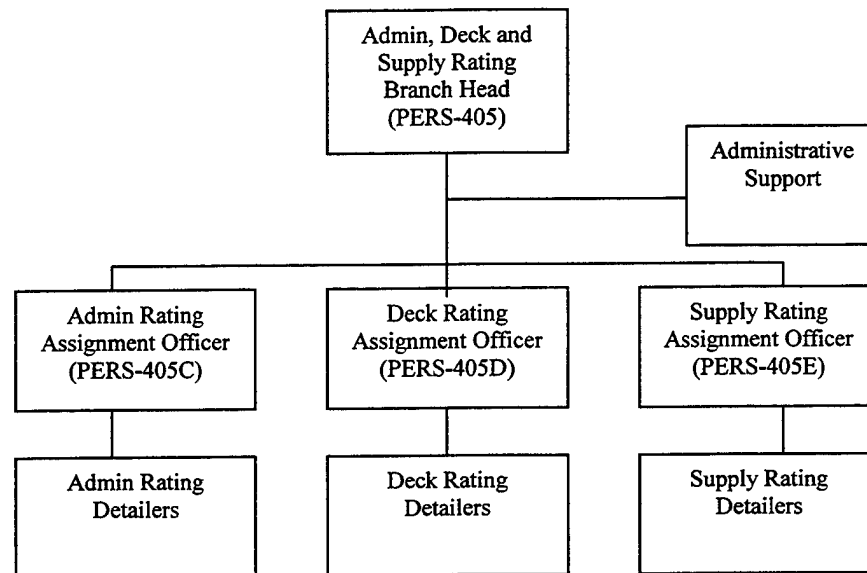


Figure 6. Administrative, Deck and Supply Rating Assignment Branch (PERS-405)

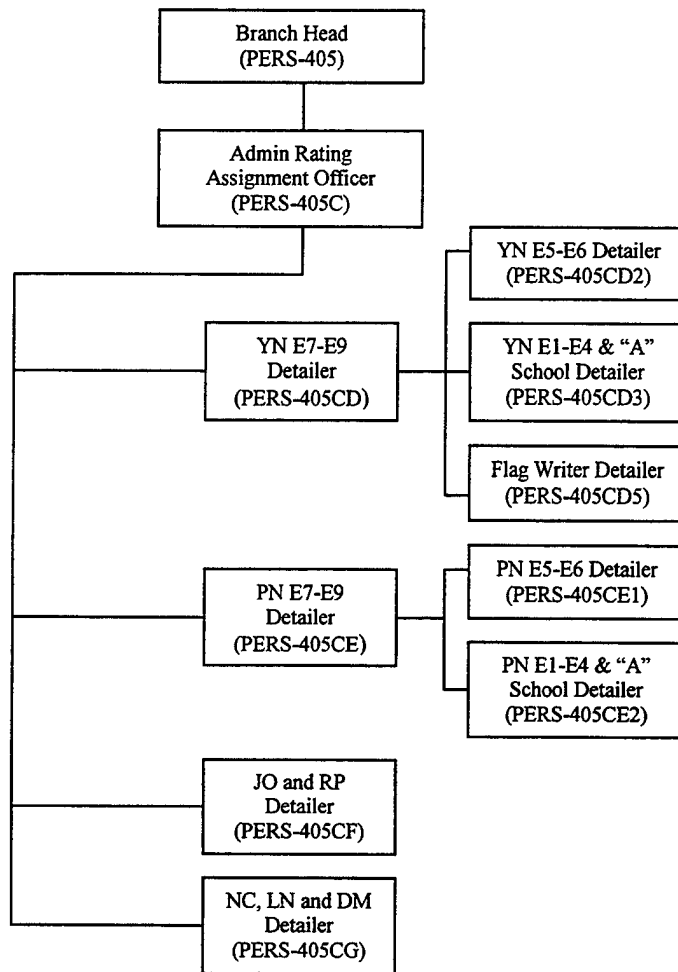


Figure 7. Administrative Rating Detailer Organization

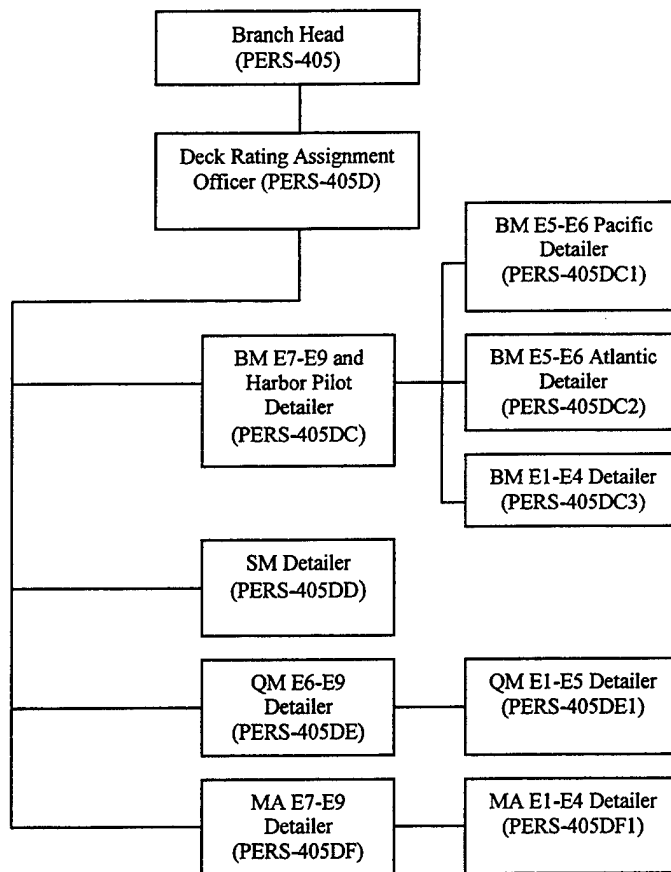


Figure 8. Deck Rating Detailer Organization

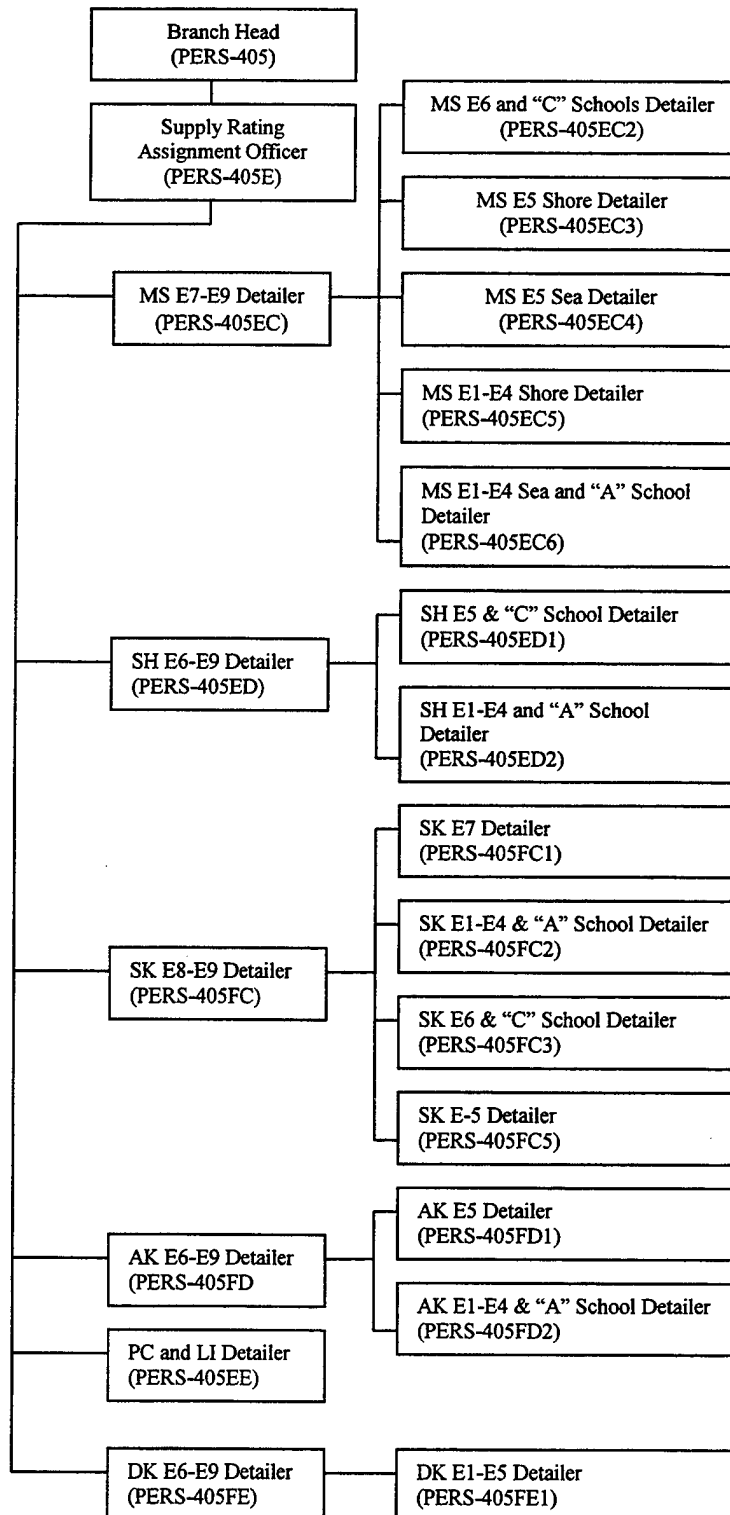


Figure 9. Supply Rating Detailer Organization

2. The Branch Head and Rating Assignment Officer

a. Branch Head

The Branch Head, Commander or Commander-select, is responsible for all assigned Detailers in PERS-405. Approximately ten percent of the Branch Head's time is occupied with direct detailing issues and approval of fleet reserve retirement applications. Approximately 50 percent of their time is devoted to liaison with fleet unit Commanding Officers and Executive Officers. This interaction involves explaining how the manpower distribution management control system operates and why billets in their respective units are not being filled in accordance with their timeline. This dialogue usually results in a referral to EPMAC who is the placement authority for their units and therefore is the activity determining what billets will be filled when. The remainder of their time is spent on various collateral duties and military personnel-related administrative duties.

b. Rating Assignment Officer (RAO)

The Rating Assignment Officer (RAO) for a particular rating within PERS-405 utilizes anywhere from five to 25 percent of their time working on detailing specific issues. The remainder of their time, similar to the Branch Head, is occupied speaking to fleet officers about manning issues in their respective units. In addition, they liaison with their Enlisted Community Manager counterparts who are looking at the numbers of personnel within a technical rating, the number leaving through end of obligated service or retirement, the number required in the future, etc. This relationship becomes important when Sailors request to remain on active duty after twenty years and still receive orders, but no longer are competitive for advancement. The dialogue between RAO and community manager will determine if that individual needs to leave

the service to free up promotion opportunities for more junior personnel or is able to remain on active duty. Other duties include military administrative duties regarding personnel management and Detailers assigned to their area, and collateral duties that may or may not be detailing related.

3. The Detailer

Duty as an Enlisted Rating Detailer is available for Sailors in pay grades E-6 (First Class Petty Officer) through E-9 (Master Chief Petty Officer). The Detailer represents the Assignment Control Authority and is the primary point of contact for Sailors negotiating orders. Thus, the Detailer is responsible for executing the Navy's assignment policy when detailing Sailors to their next duty assignment. The assignment system's objective is to promote maximum readiness and stability ashore and afloat and to provide equal opportunity for personnel to serve in duty they consider desirable (Enlisted Distribution Overview Self-Study Guide, p. 49).

A common triad of detailing priorities, in order of precedence, is the needs of the Navy, the needs for the Sailor's professional development, and the Sailor's desires or preferences. More importantly though, the Detailer is sometimes perceived as a disinterested party relative to the Sailor's current command, who may realize a manning shortfall onboard if the Sailor transfers as projected. Therefore, the Detailer needs to develop a sense of trust that he or she is going to work in good faith to get Sailors transferred on time.

a. Duties of the Detailer

The Detailer's duties include but are not limited to the following functions:

- Communicate with constituents using the on-line web-based Job Advertising and Selection System (JASS), telephone, e-mail, naval message, personal interviews or a combination of any of these methods.
- Negotiate assignment or detail options, applicable transfer regulations, and provide unbiased career assignment advice.
- Coordinate with the Enlisted Placement Management Analysis Center (EPMAC), Manning Control Authorities (MCAs) and fleet or shore units to ensure proper and equitable manning levels. (Enlisted Transfer manual, p. 9-43)

b. Assignment Policy

Assignment policy is provided in OPNAVINST 1300.15 with the following not all-inclusive list of regulations concerning assigning enlisted personnel (Enlisted Detailer and Rating Assignment Officer Reference Manual, pp. 1-7). Some of the general policies concerning detailing are:

- Sea/Shore rotation is the basis for Continental U.S. (CONUS) Permanent Change of Station (PCS) moves.
- Assign members to sea duty afloat for their first initial permanent duty station to the maximum extent possible.
- Ensure the PCS reassignment does not create unnecessary inconvenience or hardship for the member or their family members.
- The Sailor must possess the required skills for the assignment being proposed, which should be the Detailer's primary point of consideration.

- The first priority for Sailors competing for the same billet will be the Sailor who has met the Time on Station (TOS) requirements of their incumbent billet.

- Conserving PCS funds will be considered. In spite of a need to be conservative with Permanent Change of Station (PCS) funding, maximizing the effective use of available personnel skills and qualifications will not be overridden by reducing PCS financial expenditures.

- Equitably distribute personnel between all activities according to skill and experience in proportion to the billets authorized for each unit in accordance with the Chief of Naval Operations' Priority Manning regulations. This policy provides a means to distinguish those billets and units whose mission accomplishment has a greater national interest and must be fully manned at a billet or entire activity level of 100%, even when personnel shortages exist throughout the Navy. Only the CNO may designate a billet or unit a Priority 1 (indefinite period of time) or Priority 2 (specified period of time). Assigning Priority 3 to a unit or billet is delegated to the appropriate Manning Control Authority (MCA). In addition, no units will be manned in excess of manpower authorizations unless excesses exist in the rating community Navy-wide. (Manual of Navy Total Force Manpower Policies and Procedures, pp. 6-10 through 6-11).

- Sailors should be assigned to a variety of assignments that increases their knowledge and experience within their rating or technical expertise area. This includes sharing duty that is considered hardship duty such as sea, overseas, or unaccompanied by family members.

- Reassigning personnel is prohibited for those Sailors who have been convicted or accused of committing a civil or military offense and are required to remain

in the present duty assignment area to appear at hearings, trials, etc. (Enlisted Transfer Manual, p. 3-3 through 3-4).

In addition, there are specific requirements within specific categories.

These categories are:

- First term member assignments with regard to overseas duty and the number of assignments in their first three to four years of service.
- "Retainability" requirements or obligated service for accepting reassignment orders for CONUS to CONUS, CONUS to Overseas, Overseas to Overseas, and Overseas to CONUS scenarios.
- Time-on-Station (TOS) requirements to stabilize the lives of members and their family due to various uncontrollable and controllable circumstances.
- Overseas Duty with regard to length of duty, where, consecutive tours overseas, and termination of overseas duty for various scenarios.

4. The Detailing Process

The detailing process for enlisted personnel begins approximately nine months before their expected transfer date from their current assignment. Figure 10 depicts a general outline of the process of how a Sailor is assigned to their next duty station. There are numerous variables that affect how these stages progress such as those discussed in the previous section entitled "Duties of the Detailer."

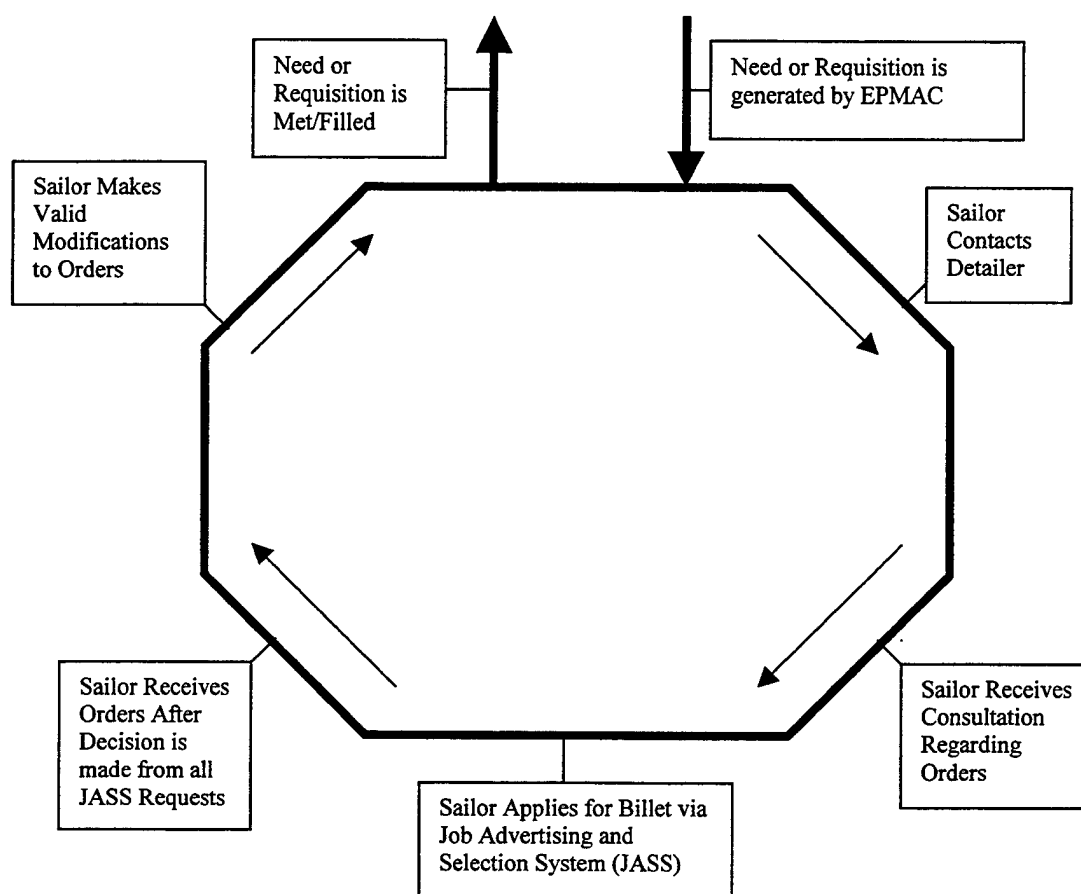


Figure 10. The Detailing Cycle
From: PERS-405

C. ACTIVITY BASED COSTING (ABC)

This section will provide a general overview of Activity Based Costing, how the ABC process can be executed and the scope of ABC that was applied in this research.

1. The Activity Based Costing Concept

Activity Based Costing (ABC) is a technique that measures the quantitative costs and performance of activities, resources and cost objects of an organization (DOD ABC Guidebook, Introduction). It derives from the idea that organizations consume resources by performing activities in converting some form of input to an output. ABC's intent is to capture the costs incurred by an organization, not based on the structure of the organization, but rather by the activities performed by the organization in producing a final physical product or service. ABC directly supports a management technique entitled Activity Based Management (ABM) or Activity based Costing Management (ABCM). ABM or ABCM focuses on managing activities to eliminate waste and reduce time spent in non-value adding activities (Garrison and Noreen, p. 336). Examining the costs associated with the activities of a process provides quantitative measurements to justify and enact process improvement.

ABC can be defined as a system designed to acquire management information through cost accounting methods that identify, describe, and assign costs to an organization's output and report on the organization's operations. In this research project, ABC serves as an analytical tool supporting cost and operations analysis that gathers financial and non-financial data. The resulting outcome should provide sufficient information to allow management to make both strategic and operational decisions (Sharman, pp. 23-26). The overarching true value of an ABC analysis is the resulting

change in the organization for which it served as a catalyst (Williams and Melhuish, p. 23). A notable change that an ABC study could support is in the Department of the Navy's Bureau of Personnel and its Navy Personnel Command's ongoing business process reengineering efforts. This could be accomplished by identifying the activities the Detailers perform when assigning a Sailor to their next duty station, the costs associated with value-added activities that positively influence the detailing process, and the costs attributable to non-value added activities that could be eliminated through procedural changes, policy changes, or technological innovations.

2. The Activity Based Costing Process

The activity based costing process involves identifying and analyzing activities, gathering costs, tracing costs to activities, establishing output measures and analyzing costs. The basic elements of an ABC system are analyzing the activities within each department, including why and under what circumstances each activity is completed; determining how often and for whom the activity is performed; estimating the resources consumed in completing the activity; and identifying what factors determine or 'drive' the activity and resources (Lambert and Whitworth, pp. 24-28). The extent or effort in each of these steps is determined by the scope of the ABC study, whether it is a full organizational study or a single section of the organization. The basic process is depicted below in Figure 10 and will be described in greater detail in the following paragraphs.

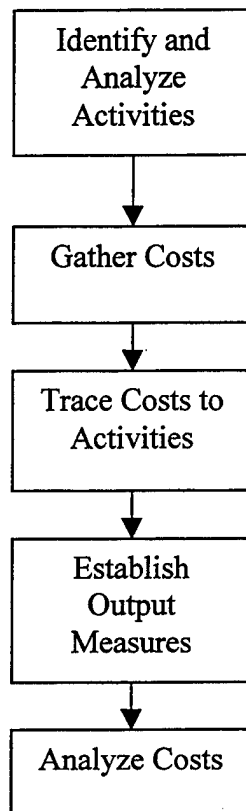


Figure 11. The Activity Based Costing Process
From: *DOD ABC Guidebook* (Figure 8)

a. Analyze Activities

The first step in conducting an ABC study is analyzing the activities in the process being studied. An activity can be broken down into “sub-activities” to better understand the task if necessary. An activity interacts with other elements of the process in terms of inputs, controls, outputs and mechanisms. Inputs are the information or materials that are used to produce an output. Controls are restrictions or inhibitors to the activity process, such as rules, regulations, laws and other informal constraints. Output is the end result or product of the activity being studied. Mechanisms are the personnel, equipment or existing organization or processes that accomplish some portion of the primary activity being studied. In this research, the activity is detailing or ordering Navy

enlisted personnel to their next duty station and the output is the match between a Sailor and a duty assignment (DOD *ABC Guidebook*, Chapter 2).

b. Gather Costs

Gathering costs involves collecting all relevant cost data related to the activity being studied. These costs are captured either by collecting readily available data or by constructing or synthesizing the correct cost numbers (DOD *ABC Guidebook*, Chapter 3). The scope of cost data collected or determined should be directly proportional to the scope of the study. In this research, many costs will be categorized as irrelevant because these costs are fixed and would not be altered by changing any of the activities in the detailing process.

c. Trace Costs to Activities

Tracing costs to the activities involves combining the results from Analyzing Activities and Gathering Costs. The organizational costs are allocated to the activity being analyzed. The key point in this step is choosing the appropriate level at which to allocate costs. The first level of costs is direct costs. These costs have an easily recognizable relationship to the activity being studied. Direct costs usually involve personnel, material, and equipment. The second level of costs is incremental costs, which include direct costs plus organizational support costs. The third cost tier is comprised of full costs, which includes the previous two costs plus all other costs not yet included such as overhead costs (DOD *ABC Guidebook*, Chapter 4).

This thesis analyzes one division (Administrative, Deck and Supply Rating Branch (PERS-405)) of an organizational department (Enlisted Assignments Branch (PERS-40) of an organization (Navy Personnel Command). The DOD *ABC Guidebook* recommends that for small projects or those projects not involving the entire

organization, that only direct costs should be used in the ABC study. This is the level of costs gathered and allocated in this research project.

d. Establish Output Measures

Establishing output measures involves determining how to measure the consumption of resources in performing activities. This is accomplished by determining how much of the cost of an activity is attributable to a unit of output and how much time it takes to produce that output. In this research project, the cost of detailing is the activity studied and the sub-activities will have costs assigned to determine non-value adding activities in the process.

e. Analyze Costs

Analyzing costs is the fifth and last step of the ABC process. It accumulates all of the steps taken so far and studies the results to determine where improvements could be made. This research project will categorize the various sub-activities in the detailing process as either value-adding or non-valued adding based on their importance to the final output, generating a set of orders for a Sailor.

3. The Value of an Activity

The value of an activity can only be examined in terms of its contribution to the customer. Determining value is subjective and depends on the specific customer and the primary role of the individual. This evaluation of an activity can either be binary, in the sense that all activities are ranked as either value adding or non-value adding, or activities can be ranked in terms of their value in a multi-level ranking. (Lambert and Whitworth, pp. 26-27). Multi-level rankings set a priority system when the ABC study determines savings in utilizing resources; they indicate which activities within a process need to be studied more thoroughly. This can only be accomplished after the customer has been

identified for each activity. In many instances, the customer is an internal department of the organization and not an external "customer" served by the organization.

III. DETAILER ACTIVITIES AND COST DATA

This chapter presents the results of the survey instrument (Appendix) and the cost data collected from the Naval Personnel Command and Naval Support Activity Mid South.

A. DETAILER ACTIVITIES

The survey instrument (Appendix) was distributed to Detailers assigned to PERS-405. The survey collected information on activities Detailers perform and the time expended in each activity. Fifteen surveys were completed and returned, these comprise the base information used in this thesis. The surveys returned represent a cross section of the Administrative, Deck and Supply ratings and also Detailer pay-grades. Table 1 exhibits the pay-grade and rating group of Detailers who responded to the survey.

Pay Grade	Rating Group	Number of Respondents	Total Number of Detailers
E9 (Master Chief Petty Officer)	Administrative	1	1
E9 (Master Chief Petty Officer)	Deck	0	1
E9 (Master Chief Petty Officer)	Supply	0	3
E8 (Senior Chief Petty Officer)	Administrative	2	3
E8 (Senior Chief Petty Officer)	Deck	0	1
E8 (Senior Chief Petty Officer)	Supply	2	3
E7 (Chief Petty Officer)	Administrative	0	2
E7 (Chief Petty Officer)	Deck	2	5
E7 (Chief Petty Officer)	Supply	5	6
E6 (First Class Petty Officer)	Administrative	2	3
E6 (First Class Petty Officer)	Deck	0	2
E6 (First Class Petty Officer)	Supply	1	8
Total		15	38

Table 1. Survey Instrument Response Demographics

1. Daily Activities

Daily activities are actions that Detailers perform on a daily basis during normal eight-hour workday. Activities with response of zero may be performed prior to the normal workday or after the workday; the zero does not necessarily imply that those events do not occur. Table 2 presents a summary of the responses including an extension of the mean response to a five-day workweek, four-week month, and twelve-month year.

Activity	Low	High	Mean	Week	Month	Annual
Career Advisement by Telephone	1.00	3.00	2.02	10.10	40.40	484.80
Responding to E-Mails Concerning Career Advisement	.50	2.00	1.33	6.65	26.60	319.20
Negotiating Orders by Telephone	1.00	4.00	1.57	7.85	31.40	376.80
Responding to E-Mails Concerning Negotiation of Orders	.50	2.00	1.01	5.05	20.20	242.40
Physical Readiness Training	0.00	2.00	.70	3.50	14.00	168.00
Meals and Other Breaks	.45	1.50	.96	4.80	19.20	230.40
Non-Detailing Related Phone Calls	0.00	1.00	.52	2.60	10.40	124.80
Non-Detailing E-Mails	0.00	1.00	.50	2.50	10.00	120.00

Table 2. Survey Instrument Response Daily Activities (Hours)

2. Weekly Activities

Weekly activities are events that Detailers perform during the normal forty hour workweek, but not daily. Table 3 presents a summary of the responses including an extension of the mean response to a four-week month and twelve-month year equivalencies.

Activity	Low	High	Mean	Month	Annual
Attend Detailing Specific Training	0.00	5.00	1.28	5.12	61.44
Attend Non-Detailing Specific Training	0.00	4.00	.83	3.32	39.84
Attend Detailing Specific Meetings	0.00	6.00	1.60	6.40	76.80
Attend Non-Detailing Specific Training	0.00	6.00	1.17	4.68	56.16
Verifying Billet Requisition Download	0.00	6.00	2.27	9.08	108.96
Identifying Eligible Personnel for Detailing	1.00	10.00	2.67	10.68	128.16
Requesting Detail Waiver Approval	1.00	15.00	3.33	13.32	159.84
Determining Cost of Proposed Orders	0.00	10.00	2.17	8.68	104.16
Writing the Proposed Orders	1.00	10.00	3.60	14.40	172.80
Processing NP-1306/7 Personnel Action Requests	1.00	10.00	3.13	12.52	150.24

Table 3. Survey Instrument Response Weekly Activities (Hours)

3. Monthly Activities

Monthly activities are events that Detailers perform monthly but not daily or weekly. A month is assumed to involve 160 working hours. Table 4 presents a summary of the responses including an extension of the mean response to a twelve-month year equivalent.

Activity	Low	High	Mean	Annual
Preparing and Supporting Reports for Chain of Command	0.00	80.00	14.07	168.84
Preparing and/or Supporting Presentations for Chain of Command	0.00	40.00	5.40	64.80
Preparing and/or Supporting Fleet Reserve Applications	0.00	20.00	4.20	50.40
Processing Cross-Decks and Diverts to Support EPMAC and MCA Requests	0.00	40.00	11.80	141.60
Performing Collateral Duties	0.00	30.00	3.60	43.20

Table 4. Survey Instrument Response Monthly Activities (Hours) Annual Activities

4. Annual Activities

Annual activities are those events that Detailers perform annually but not as frequently as daily, weekly or monthly. Tables 5 and 6 present the survey instrument (Appendix) response summaries for annual activities. The response data presented in Table 5 were converted from raw data "day" units to hours based on an eight-hour workday.

Activity	Low (Days)	High (Days)	Mean (Days)	Mean (Hours)
Detailer Visit – TAD Travel	0.00	45.00	7.33	58.64
Non-Detailing Related TAD Travel	0.00	50.00	5.00	4.00
Special Liberty (Day Off Not Charged as Leave)	0.00	10.00	1.93	15.44
Regular Leave	0.00	30.00	9.13	73.04

Table 5. Survey Instrument Response Annual Activities (Days and Hours)

Activity	Low	High	Mean
Preparing Evaluations/Fitness Reports	0.00	10.00	4.00
Attending Medical and/or Dental Appointments	0.00	50.00	11.60
Attending Legal/Attorney Appointments	0.00	2.00	.60

Table 6. Survey Instrument Response Other Annual Activities (Hours)

5. Detailer Fleet Visit Activities

Table 7 presents the survey response data from those respondents who have made trips to liaison with Sailors in fleet concentration areas regarding career progression, career advisement and billet availability. These trips are also referred to as 'Road Shows.'

Activity	Low	High	Mean
Traveling	.30	6.00	2.13
Career Counseling Interviews	2.00	8.00	4.17
Orders Negotiation Interviews	2.00	8.00	3.67
Large Group Training/Briefing Presentation	0.00	1.00	.50
Communicating with PERS-405 Office	0.00	1.00	.63
Non-Detailing Related Work	0.00	1.00	.67
Physical Readiness Training	0.00	1.00	.33
Meals and Other Breaks	0.00	1.50	.79

Table 7. Survey Instrument Response for Detailer Fleet Activity Visits (Hours)

B. COST DATA

The *DOD ABC Guidebook* recommends that only direct costs should be considered for small projects or those projects not involving the entire parent organization. A cost is categorized as direct if it can be traced specifically to the PERS-405 detailing office. Therefore, cost data gathered for this thesis includes personnel, material, communication (telephone), and Temporary Additional Duty (TAD) travel. Other costs that were calculated based on a specified allocation base and/or standard cost were utility, maintenance, and janitorial services.

1. Personnel

Direct labor costs are calculated from the Center for Naval Cost Analysis' Cost of Manpower Estimating Tool (COMET) Version 2.0 and reflect fiscal year 1999 personnel costs. Direct labor costs incurred during fiscal year 1999 include the cost of the Detailers, the PERS-405 Branch Head, two Rating Assignment Officers, and an administrative support staff involving four Sailors. This thesis classifies a proportion of direct personnel costs from the Branch Head, two Rating Assignment Officers and administrative support staff as overhead; these costs are allocated across the thirty-eight PERS-405 Detailers.

a. Cost of Manpower Estimating Tool (COMET)

The COMET database is the single source for estimating costs of Navy military manpower. COMET provides all personnel costs, sorted by technical rating and pay grade, and incorporates all items funded by the Military Personnel Navy (MPN) appropriation, pay and allowances, as well as variable indirect costs funded through a mix of MPN, Operations and Maintenance, Navy (O&MN), Department of Defense (DOD), and Veterans Administration (VA) appropriations. O&MN costs include training

and base operational support, DOD allowances that include items such as military family member medical benefits, and VA programs that include Montgomery GI Bill benefits. COMET allows the user to decide which costs to include in the cost determination (ASECNAV for RDA Memorandum).

b. Personnel Costs

Tables 8 and 9 present the direct and indirect personnel costs determined from the COMET Version 2.0 database. The data includes fiscal year 1999 Military Pay-Navy appropriation expenditures for Basic Pay, Basic Quarters, Variable Housing, Basic Subsistence, and Permanent Change of Station (PCS) allowances. Other direct and indirect pays, allowances and accruals, such as reenlistment bonuses, medical care, base support, accession training, non-Detailer training that occurred earlier in a career, etc., are not included in the calculations. Since the data for all Detailers were calculated using identical key variable categories, the differences in personnel costs between Detailers in the same paygrade reflects their technical rating. The COMET database is built using the average cost within a sample taken from a rating group population. Therefore, specific administrative, deck and supply ratings may include more senior personnel in paygrade, in terms of longevity, than another rating, and therefore would have higher respective costs.

Detailer Rating	First Class Petty Officer (E-6)	Chief Petty Officer (E-7)	Senior Chief Petty Officer (E-8)	Master Chief Petty Officer (E-9)
AK	\$35,899.43	\$40,986.35	\$46,732.19	\$55,273.35
BM	\$35,368.97	\$40,454.66	\$45,454.66	\$54,076.91
DK	\$36,036.23	\$41,552.23	\$47,626.50	\$54,233.03
JO	\$34,932.12	\$40,848.40	\$46,002.89	\$55,355.44
LN	\$34,878.91	\$40,157.35	\$45,628.72	\$53,976.94
MA	\$34,965.94	\$40,747.04	\$45,962.43	\$54,569.81
MS	\$35,955.91	\$41,072.71	\$46,475.95	\$55,855.31
PC	\$36,150.93	\$41,519.18	\$47,963.99	\$55,796.49
PN	\$35,254.22	\$40,694.30	\$46,193.42	\$54,489.09
QM	\$35,714.92	\$41,243.38	\$46,741.91	\$54,096.05
SH	\$36,055.46	\$41,783.49	\$47,313.77	\$55,770.61
SK	\$35,630.90	\$40,863.83	\$46,965.13	\$54,681.35
SM	\$35,863.99	\$41,056.75	\$46,600.91	\$55,409.00
YN	\$35,193.44	\$40,616.90	\$46,428.20	\$54,999.74
Mean	\$35,564.38	\$40,971.18	\$46,577.91	\$54,898.79

Table 8. Detailer Fiscal Year 1999 Annual Manpower Costs from COMET Database Version 2.0

Staff Rating/Designator	Yeoman	Officer	Annual Cost per Hour
Commander (Designator 1110)	NA	\$79,652.17	\$38.29
Lieutenant Commander (Designator 1110)	NA	\$66,482.78	\$31.96
Lieutenant (Designator 6510)	NA	\$61,714.28	\$29.67
First Class Petty Officer (E-6)	\$35,193.44	NA	\$16.92
Third Class Petty Officer (E-4)	\$25,283.45	NA	\$12.16
Seaman Recruit to Seaman (E1 to E-3)	\$21,794.56	NA	\$10.48

Table 9. Non-Detailer Fiscal Year 1999 Annual Manpower Costs from COMET Database Version 2.0

2. Communications Costs

The Naval Personnel Command's communication's office (PERS-016C) provided the communication costs incurred by PERS-405 during fiscal year 1999. The costs utilized in this thesis include monthly service charges per voice phone line with local service, long distance toll service, and a monthly communication fee assessed per minute by Naval Support Activity Mid-South. The communication fee ranged from \$.05 to \$.06 per minute. Calculations in Table 10 used \$.055 per minute for this fee. The communication costs used in this thesis do not include either computer data lines or

usage, with the exception of facsimile service, or Defense Switching Network (DSN) phone service.

Table 10 presents the fiscal year 1999 phone usage and costs for Detailers and Table 11 exhibits the same for non-Detailers. The phone usage data and associated cost have several variables that affect expenses incurred. Some of these variables include the propensity of Detailers to call their prospective "Rollers," or Sailors eligible for transfer within the next nine months, the Rollers' seniority, the number of Sailors supported by a Detailer, and the Roller's location. There are several Detailers in PERS-405 that detail all paygrades in their rating, others that only detail one. In addition, the phone usage data from the communications office only accounts for outgoing from and incoming collect calls to NAVPERSCOM. It does not include other incoming calls. The average annual communication cost per Detailer is calculated and provided at the bottom of Table 10; this cost will be applied to the annual Detailer cost calculated later.

Pay Grade of Detailer	Usage (Minutes)	Long Distance Cost	Base Surcharge Cost	Line Charge	Total Cost
E-9	435	\$85.64	\$23.91	\$352.80	\$138.95
E-7	840	\$213.19	\$46.22	\$352.80	\$288.81
E-7	1,439	\$280.45	\$79.12	\$352.80	\$388.97
E-7	546	\$124.38	\$30.04	\$352.80	\$183.82
E-6	1,040	\$340.77	\$57.19	\$352.80	\$427.36
E-6	898	\$214.24	\$49.40	\$352.80	\$293.04
E-7	2,300	\$1,092.81	\$126.49	\$352.80	\$1,248.70
E-6	590	\$188.67	\$32.42	\$352.80	\$250.49
E-6	794	\$208.83	\$43.66	\$352.80	\$281.89
E-6	3,111	\$655.41	\$171.09	\$352.80	\$855.90
E-8	157	\$31.02	\$8.66	\$352.80	\$69.08
E-6	482	\$113.40	\$26.51	\$352.80	\$169.31
E-7	1,654	\$397.13	\$90.99	\$352.80	\$517.52
E-7	1,522	\$321.84	\$83.70	\$352.80	\$434.94
E-8	796	\$159.63	\$43.77	\$352.80	\$232.80
E-7	841	\$163.89	\$46.23	\$352.80	\$239.52
E-6	700	\$141.92	\$38.49	\$352.80	\$209.81
E-7	1,578	\$497.63	\$86.81	\$352.80	\$613.84
E-6	768	\$148.39	\$42.25	\$352.80	\$220.04
E-8	767	\$239.76	\$42.17	\$352.80	\$311.33
E-7	648	\$129.21	\$35.62	\$352.80	\$194.23
E-6	912	\$212.59	\$50.17	\$352.80	\$292.16
E-7	1,322	\$264.56	\$72.70	\$352.80	\$366.66
E-9	1,145	\$253.74	\$62.97	\$352.80	\$346.11
E-7	853	\$183.61	\$46.90	\$352.80	\$259.91
E-9	609	\$137.76	\$33.47	\$352.80	\$200.63
E-6	1,361	\$279.21	\$74.86	\$352.80	\$383.47
E-8	3,151	\$1,607.49	\$173.31	\$352.80	\$1,810.20
E-8	2,652	\$938.89	\$145.87	\$352.80	\$1,114.16
E-6	2,316	\$294.71	\$127.37	\$352.80	\$451.48
E-7	501	\$95.01	\$27.57	\$352.80	\$151.98
E-9	435	\$138.30	\$23.95	\$352.80	\$191.65
E-6	1,391	\$595.36	\$76.52	\$352.80	\$701.28
E-8	1,030	\$225.28	\$56.62	\$352.80	\$311.30
E-8	1,619	\$580.88	\$89.02	\$352.80	\$699.30
E-7	791	\$159.37	\$43.52	\$352.80	\$232.29
E-7	1,005	\$201.56	\$55.25	\$352.80	\$286.21
E-6	1,003	\$242.26	\$55.15	\$352.80	\$326.81
Total	51,074	\$12,158.79	\$2,809.05	\$13,406.40	\$16,085.04
Mean Cost Per Detailer					\$423.29

Table 10. Fiscal Year 1999 Communication Usage and Costs for PERS-405 Detailers from Naval Personnel Command Communications Office (PERS-016C)

Phone Nr	Usage (Minutes)	Long Distance Cost	NSA Mid- South Usage Cost	Line Charge	Total Cost
Facsimile	2,081	\$608.75	\$114.43	\$328.80	\$1,051.58
Admin Support	578	\$99.06	\$31.80	\$352.80	\$483.66
Admin Support	1,022	\$183.60	\$56.22	\$352.80	\$592.62
RAO	342	\$72.89	\$18.81	\$352.80	\$444.50
RAO	1,020	\$506.11	\$56.12	\$352.80	\$915.03
Branch Head	715	\$178.98	\$39.33	\$352.80	\$571.11
Admin Support	575	\$96.16	\$31.64	\$352.80	\$480.60
Admin Support	744	\$143.90	\$40.91	\$352.80	\$537.61
Total	7,077	\$1,889.45	\$389.26	\$2,798.40	\$5,077.11

Table 11. Fiscal Year 1999 Communication Usage and Costs for PERS-405 Non-Detailer from Naval Personnel Command Communications Office (PERS-016C)

3. Material Costs

Direct materials for PERS-405 consists primarily of copier paper, toner cartridges and other office supplies. These supplies are ordered through NAVPERSCOM's Assignment Branch's (PERS-4) Fiscal Management Office (PERS-454). Resources consumed were not tracked to individual detailing office until fiscal year 2000. Therefore, this thesis utilizes fiscal year 2000 data for this cost item only. Records for fiscal year 2000 indicated PERS-405 used approximately \$4,000 in consumable supplies. Forty-five personnel are assigned to PERS-405, so \$88.89 in direct material resources is consumed per year per person.

4. Temporary Duty Travel Costs

Travel of Detailers to fleet concentration areas, or 'Road Shows,' for interviews and presentations is not tracked to the individual detailing office(s). The lowest level at which travel costs are monitored is the Enlisted Assignments Branch (PERS-40). Total travel costs incurred for fiscal year 1999 by PERS-40 were \$218,109.39. This total does

not represent the true total resources consumed because non-NAVPERSCOM activities or commands fund some travel for Detailers to speak to specific groups of Sailors, usually by rating group. For example, the Naval Supply Systems Command or Commander in Chief, U.S. Atlantic Fleet may fund the travel costs for various rating Detailers to speak to their respective rating population in a particular location. Therefore, temporary duty travel costs are not included in this analysis of PERS-405 activity costs, although the activities performed at the "Road Show" site are included.

5. Utility Costs

Utility costs are metered per building at Naval Support Activity (NSA) Mid-South. The most reasonable allocation base for steam (heat) and electricity is per square foot for the NSA Mid-South building in which PERS-405 is located, Building S-791. A reasonable allocation base for sewage and water is number of personnel assigned. However, due to the dynamic nature of this allocation base, square footage of office space occupied is used instead. Utility costs for Building S-791 and their allocation to PERS-405 for fiscal year 1999 are provided in Table 12. A calculated annualized cost per person is presented in Table 13. These utility costs are unavoidable costs that could be reclassified as avoidable if a specific section of the office building is reassigned to a non-NAVPERSCOM activity that would then be allocated this occupancy cost.

Type of Utility	FY-99 Annual Total Cost	Building S-791 Total Square Feet	Cost per Square Foot	PERS-405 Sq Ft	Cost Allocated to PERS-405
Electricity	\$244,644.00	192,890	\$1.27	4,187	\$5,317.49
Steam	\$29,109.75	192,890	\$.15	4,187	\$628.05
Water	\$2,225.96	192,890	\$.01	4,187	\$41.87
Sewage	\$1,290.09	192,890	\$.01	4,187	\$41.87
Total	\$277,269.80				\$6,029.28

Table 12. Building S-791 and PERS-405 Fiscal Year 1999 Allocated Utility Costs from NSA Mid-South Resource Management Office and Public Works Planning Office

Type of Utility	Cost Allocated to PERS-405	PERS-405 Personnel	Annual Cost per Person
Electricity	\$5,317.49	45	\$118.17
Steam	\$628.05	45	\$13.96
Water	\$41.87	45	\$.93
Sewage	\$41.87	45	\$.93
Total	\$6,029.28	45	\$133.99

Table 13. PERS-405 Fiscal Year 1999 Annual Utility Cost per Person

6. Maintenance and Janitorial Services

Maintenance and janitorial costs are allocated at a standard cost rate that is calculated from total costs incurred the previous year. These costs and a calculation of cost per person are provided below in Tables 14 and 15. These utility costs are unavoidable costs that could be reclassified as avoidable if a specific section of the office building is reassigned to a non-NAVPERSCOM activity that would then be allocated this occupancy cost.

Type of Service	FY-99 Standard Cost Per Square Foot	PERS-405 Square Feet	Cost Allocated to PERS-405
Maintenance	\$1.31	4,187	\$5,484.97
Janitorial Services	\$1.56	4,187	\$6,531.72
Total	\$2.87	4,187	\$12,016.69

Table 14. Fiscal Year 1999 Maintenance and Janitorial Services and Allocated Costs to PERS-405 from NSA Mid-South Resource Management Office

Type of Service	Cost Allocated to PERS-405	PERS-405 Personnel	Cost per Person
Maintenance	\$5,484.97	45	\$121.89
Janitorial Services	\$6,531.72	45	\$145.15
Total	\$12,016.69	45	\$267.43

Table 15. Fiscal Year 1999 Maintenance and Janitorial Services for PERS-405 Cost per Person

IV. ANALYSIS OF ACTIVITY AND COST DATA

A. DETAILING ACTIVITY COST POOLS

The detailing activity results are divided between activities directly involved in detailing a Sailor, supporting detailing function, and not affecting detailing. These categories are referred to as activity cost pools. Specific tasks performed by the Detailer can be analyzed through the amount of resources consumed in each cost pool.

The sum of the total mean hours for all direct, indirect, other, and fleet Detailer visit activities resulted in 3,736 hours per Detailer. Due to the data reported and number of responses, this number is unrealistically high, it would equate to each Detailer working in excess of 10 hours per day, every day of the year. To maintain consistency and relative accuracy in calculations, 3,736 hours is used as the denominator in determining percentages of resources consumed in a specific detailing activity or series of activities.

1. Direct Detailing Activities

Table 16 displays the functions performed that directly support detailing a Sailor and were previously identified in Tables 2 through 6. These activities comprise 2,389 hours per year and represent approximately 64% of the Detailer's available resources.

Activity	Mean Hours Annually	Annual Activity Utilizati on Percenta ge
Career Advisement by Telephone	484.80	12.98%
Responding to Emails Concerning Career Advisement	319.20	8.54%
Negotiating Orders by Telephone	376.80	10.09%
Responding to Emails Regarding Negotiation of Orders	242.40	6.49%
Verifying Billet Requisition Download from EPMAC	108.96	2.92%
Identifying Eligible Personnel for Detailing	128.16	3.43%
Requesting Detail Waivers	159.84	4.28%
Determining Cost of Proposed Orders	104.16	2.79%
Writing/Inputting Orders	172.80	4.63%
Processing NAVPERS 1306/7 Personnel Action Requests	150.24	4.02%
Processing Cross-Decks & Diverts in Support of EPMAC/MCA Requests	141.60	3.80%
Total	2,388.96	63.95%

Table 16. Direct Detailing Activity and Time Utilized

2. Indirect Detailing Activities

Table 17 exhibits the indirect detailing activities performed as previously identified in Tables 2 through 6. These activities support Sailor detailing, but are not part of the actual detailing sequence or activities such as those in Table 16. Indirect detailing activities consume 422 hours, or approximately 11 percent of the Detailer's available resources.

Activity	Mean Hours Annually	Annual Activity Utilization Percentage
Attending Detailing Specific Training	61.44	1.64%
Attending Detailing Specific Meetings	76.80	2.06%
Preparing and Supporting Reports for Chain of Command	168.84	4.52%
Preparing or Supporting Presentations for Chain of Command	64.80	1.73%
Preparing or Supporting Fleet Reserve Applications	50.40	1.35%
Total	422.28	11.30%

Table 17. Indirect Detailing Activity and Time Utilized

3. Other Non-Detailing Activities

Table 18 includes various other activities previously identified in Tables 2 through 6. These activities are not directly or indirectly involved in the assignment process but still comprise almost 25 percent of the Detailer's available resources.

Activity	Mean Hours Annually	Annual Activity Utilization Percentage
Attending Non-Detailing Specific Training	39.84	1.07%
Attending Non-Detailing Specific Meetings	76.80	2.06%
Physical Readiness Training	168.00	4.50%
Meals and Other Breaks	230.40	6.17%
Non-Detailing Related Telephone Calls	124.80	3.34%
Non-Detailing E-mail Activity	120.00	3.21%
Performing Collateral Duties	43.20	1.16%
Non-Detailing TAD Travel	4.00	0.11%
Special Liberty	15.44	0.41%
Regular Leave	73.04	1.96%
Preparing Evaluations or Fitness Reports	4.00	0.11%
Attending Medical and Dental Appointments	11.60	0.31%
Attending Legal or Attorney Appointments	.60	0.02%
Total	911.72	24.40%

Table 18. Other Activities and Time Utilized

4. Detailer Fleet Visit Activities

Table 19 presents the functions performed by the Detailers during visits to fleet concentration areas as presented previously in Table 7. These activities comprise only 13 hours annually and less than 1 percent of the Detailer's available time.

Activity	Mean Hours Annually	Annual Activity Utilization Percentage
Traveling to Visit Site	2.13	0.06%
Career Counseling Interviews	4.17	0.11%
Orders negotiation Interviews	3.67	0.10%
Training or Presentations to Large Audience	.50	0.01%
Communicating with PERS-405 Office	.63	0.02%
Non-Detailing Related Work	.67	0.02%
Physical Readiness Training	.33	0.01%
Meals and Other Breaks	.79	0.02%
Total	12.89	0.35%

Table 19. Detailer Fleet Visit Activities and Time Consumed

B. ALLOCATION OF OVERHEAD RESOURCE CONSUMPTION

1. Indirect Resources Consumed

Table 20 presents costs to support detailing functions, including costs for personnel, and the material and, other resources they consume. Based on interviews with the current PERS-405 Branch Head and Rating Assignment Officers, a percentage of their time is occupied with activities that directly involve detailing. This portion of their time is not allocated to Detailers as an overhead cost. The administrative support staff, involving four enlisted personnel, is treated entirely as overhead and their total cost or resource consumption is allocated equally between all thirty-eight PERS-405 Detailers. The outcome of these calculations is the total indirect resource cost. These figures are used for further analysis in determining the total costs Detailers incur in performing detailing functions.

Person	Annual Personnel Cost	Telephone Costs	Material Costs	Allocable Overhead Costs (Subtotal)
Branch Head	\$79,652.17	\$571.11	\$88.89	\$72,281.15
Admin & Deck RAO	\$66,482.78	\$444.50	\$88.89	\$50,262.61
Supply RAO	\$61,714.28	\$915.03	\$88.89	\$59,582.39
Administrative Support (YN E-6)	\$35,193.44	\$480.60	\$88.89	\$35,762.93
Administrative Support (YN E-4)	\$25,283.45	\$483.66	\$88.89	\$25,856.00
Administrative Support (YN E-3)	\$21,794.56	\$592.62	\$88.89	\$22,476.07
Administrative Support (YN E-1)	\$21,794.56	\$537.61	\$88.89	\$22,421.06

Table 20. PERS-405 Allocable Overhead Costs

Person	Allocable Overhead Costs (Subtotal)	% Of Time in Non-Detailing Related Activities	Utility Costs	Maintenance and Janitorial Costs	Allocable Overhead Costs
Branch Head	\$72,281.15	90.00%	\$133.99	\$267.43	\$72,642.43
Admin & Deck RAO	\$50,262.61	75.00%	\$133.99	\$267.43	\$50,563.68
Supply RAO	\$59,582.39	95.00%	\$133.99	\$267.43	\$59,963.74
Administrative Support (YN E-6)	\$35,762.93	100%	\$133.99	\$267.43	\$36,164.35
Administrative Support (YN E-4)	\$25,856.00	100%	\$133.99	\$267.43	\$26,257.42
Administrative Support (YN E-3)	\$22,476.07	100%	\$133.99	\$267.43	\$22,877.49
Administrative Support (YN E-1)	\$22,421.06	100%	\$133.99	\$267.43	\$22,822.48

Table 20 (Cont.). PERS-405 Allocable Overhead Costs

2. Overhead Costs Allocable per Detailer

The total allocable overhead costs are divided by the number of Detailers to determine the annual overhead cost per Detailer. Table 21 shows the results of the initial calculations and Table 22 displays the data per detailing group. The critical variable that changes the cost between different detailing rating groups is the RAO. At the time this data was collected, one officer served as the RAO for two rating groups, Administrative and Deck, which makes their allocable costs identical. The billet structure in PERS-405 allows for three RAOs, one for each rating group. Therefore, later analysis would likely find cost differences between all three RAOs and their respective Detailer rating groups.

Person	Total Overhead Cost Allocable	# Of Personnel Allocable	Overhead Cost Allocable per Function
Branch Head (O-5/Commander)	\$72,642.43	38	\$1,911.64
Admin & Deck RAO (O-4/Lieutenant Commander)	\$50,563.68	18	\$2,809.09
Supply RAO (O-3/Lieutenant)	\$59,963.74	20	\$2,998.19
Administrative Support (YN E-6)	\$36,164.35	38	\$951.69
Administrative Support (YN E-4)	\$26,257.42	38	\$690.99
Administrative Support (YN E-3)	\$22,877.49	38	\$602.04
Administrative Support (YN E-3)	\$22,822.48	38	\$600.59
Facsimile Communications	\$1051.58	38	\$27.67

Table 21. PERS-405 Allocable Cost per Overhead Function

Person	Admin Rating Detailer	Deck Rating Detailer	Supply Rating Detailer
Branch Head	\$1,911.64	\$1,911.64	\$1,911.64
Admin & Deck RAO	\$2,809.09	\$2,809.09	\$0.00
Supply RAO	\$0.00	\$0.00	\$2,998.19
Administrative Support (YN E-6)	\$951.69	\$951.69	\$951.69
Administrative Support (YN E-4)	\$690.99	\$690.99	\$690.99
Administrative Support (YN E-3)	\$602.04	\$602.04	\$602.04
Administrative Support (YN E-3)	\$600.59	\$600.59	\$600.59
Facsimile Communications	\$27.67	\$27.67	\$27.67
Total	\$7,593.71	\$7,593.71	\$7,782.82

Table 22. PERS-405 Annual Overhead Rate by Detailer Rating Group

C. ANNUAL COST OF A DETAILER

Tables 23 through 26A present the annualized total cost of each rating detailing group, and some cursory calculations of cost per assignment or Sailor detailed. These simple calculations illustrate that the unit cost per assignment is less per unit of service or detail as the Detailer assigns more Sailors (i.e., spreads the cost over a larger denominator or customer base).

1. First Class Petty Officer (E-6)

	Administrative	Deck	Supply
Manpower Costs	\$35,564.38	\$35,564.38	\$35,564.38
Communication Costs	\$423.29	\$423.29	\$423.29
Direct Material Costs	\$88.89	\$88.89	\$88.89
Overhead Costs	\$7,593.71	\$7,593.71	\$7,782.82
Utilities Costs	\$133.99	\$133.99	\$133.99
Maintenance & Janitorial Service Costs	\$267.43	\$267.43	\$267.43
Annual Total Cost	\$44,071.69	\$44,071.69	\$44,260.80

Table 23. Annual Cost of First Class Petty Officer (E-6) Detailer

	Administrative	Deck	Supply
Total Annual Cost	\$44,071.69	\$44,071.69	\$44,260.80
Cost Per Detail:			
100	\$440.72	\$440.72	\$442.61
250	\$176.29	\$176.29	\$177.04
500	\$88.14	\$88.14	\$88.52
750	\$58.76	\$58.76	\$59.01
1000	\$44.07	\$44.07	\$44.26
1250	\$35.26	\$35.26	\$35.41
1500	\$29.38	\$29.38	\$29.51

Table 23A. Cost per Assignment for First Class Petty Officer Detailer

2. Chief Petty Officer (E-7)

	Administrative	Deck	Supply
Manpower Costs	\$40,971.18	\$40,971.18	\$40,971.18
Communication Costs	\$423.29	\$423.29	\$423.29
Direct Material Costs	\$88.89	\$88.89	\$88.89
Overhead Costs	\$7,593.71	\$7,593.71	\$7,782.82
Utilities Costs	\$133.99	\$133.99	\$133.99
Maintenance & Janitorial Service Costs	\$267.43	\$267.43	\$267.43
Total Annual Cost	\$49,478.49	\$49,478.49	\$49,667.60

Table 24. Annual Cost of Chief Petty Officer (E-7) Detailer

	Administrative	Deck	Supply
Total Annual Cost	\$49,478.49	\$49,478.49	\$49,667.60
Cost Per Detail:			
100	\$494.78	\$494.78	\$496.68
250	\$197.91	\$197.91	\$198.67
500	\$98.96	\$98.96	\$99.34
750	\$65.97	\$65.97	\$66.22
1000	\$49.48	\$49.48	\$49.67
1250	\$39.58	\$39.58	\$39.73
1500	\$32.99	\$32.99	\$33.11

Table 24A. Cost per Assignment for Chief Petty Officer Detailer

3. Senior Chief Petty Officer (E-8)

	Administrative	Deck	Supply
Manpower Costs	\$46,577.91	\$46,577.91	\$46,577.91
Communication Costs	\$423.29	\$423.29	\$423.29
Direct Material Costs	\$88.89	\$88.89	\$88.89
Overhead Costs	\$7,593.71	\$7,593.71	\$7,782.82
Utilities Costs	\$133.99	\$133.99	\$133.99
Maintenance & Janitorial Service Costs	\$267.43	\$267.43	\$267.43
Annual Total Cost	\$55,085.22	\$55,085.22	\$55,274.33

Table 25. Annual Cost of Senior Chief Petty Officer (E-8) Detailer

	Administrative	Deck	Supply
Total Annual Cost	\$55,085.22	\$55,085.22	\$55,274.33
Cost Per Detail:			
100	\$550.85	\$550.85	\$552.74
250	\$220.34	\$220.34	\$221.10
500	\$110.17	\$110.17	\$110.55
750	\$73.45	\$73.45	\$73.70
1000	\$55.09	\$55.09	\$55.27
1250	\$44.07	\$44.07	\$44.22
1500	\$36.72	\$36.72	\$36.85

Table 25A. Cost per Assignment for Senior Chief Petty Officer Detailer

4. Master Chief Petty Officer (E-9)

	Administrative	Deck	Supply
Manpower Costs	\$54,898.79	\$54,898.79	\$54,898.79
Communication Costs	\$423.29	\$423.29	\$423.29
Direct Material Costs	\$88.89	\$88.89	\$88.89
Overhead Costs	\$7,593.71	\$7,593.71	\$7,782.82
Utilities Costs	\$133.99	\$133.99	\$133.99
Maintenance & Janitorial Service Costs	\$267.43	\$267.43	\$267.43
Annual Total Cost	\$63,406.10	\$63,406.10	\$63,595.21

Table 26. Annual Cost of Master Chief Petty Officer (E-9) Detailer

	Administrative	Deck	Supply
Total Annual Cost	\$63,406.10	\$63,406.10	\$63,595.21
Cost Per Detail:			
100	\$634.06	\$634.06	\$635.95
250	\$253.62	\$253.62	\$254.38
500	\$126.81	\$126.81	\$127.19
750	\$84.54	\$84.54	\$84.79
1000	\$63.41	\$63.41	\$63.60
1250	\$50.72	\$50.72	\$50.88
1500	\$42.27	\$42.27	\$42.40

Table 26A. Cost per Assignment for Master Chief Petty Officer Detailer

D. ACTIVITY COST POOL RESOURCE CONSUMPTION

To determine the costs associated with each activity, the annual utilization percentage computed in Tables 16 through 19 is applied to the annualized cost of the Detailers computed in Tables 23 through 26.

1. Direct Detailing Activities

Table 27 exhibits the direct detailing activities costs by paygrade for Administrative and Deck Rating Detailers. Table 28 presents the costs incurred by Supply Rating Detailers.

Activity	Utilization Percentage	PO1 (E-6)	CPO (E-7)	SCPO (E-8)	MCPO (E-9)
Career Advisement by Telephone	12.98%	\$5,718.94	\$6,420.55	\$7,148.10	\$8,227.86
Responding to Emails Concerning Career Advisement	8.54%	\$3,765.44	\$4,227.39	\$4,706.42	\$5,417.35
Negotiating Orders by Telephone	10.09%	\$4,444.92	\$4,990.23	\$5,555.70	\$6,394.92
Responding to Emails Regarding Negotiation of Orders	6.49%	\$2,859.47	\$3,210.27	\$3,574.05	\$4,113.93
Verifying Billet Requisition Download from EPMAC	2.92%	\$1,285.35	\$1,443.03	\$1,606.55	\$1,849.23
Identifying Eligible Personnel for Detailing	3.43%	\$1,511.84	\$1,697.31	\$1,889.65	\$2,175.09
Requesting Detail Waivers	4.28%	\$1,885.55	\$2,116.87	\$2,356.75	\$2,712.75
Determining Cost of Proposed Orders	2.79%	\$1,228.72	\$1,379.46	\$1,535.78	\$1,767.77
Writing/Inputting Orders	4.63%	\$2,038.43	\$2,288.51	\$2,547.84	\$2,932.70
Processing NAVPERS 1306/7 Personnel Action Requests	4.02%	\$1,772.30	\$1,989.73	\$2,215.20	\$2,549.82
Processing Cross-Decks and Diverts in Support of EPMAC and MCA Requests	3.79%	\$1,670.38	\$1,875.31	\$2,087.81	\$2,403.19
Total	63.94%	\$28,181.34	\$31,638.69	\$35,223.87	\$40,544.60

Table 27. Annual Cost of Administrative and Deck Rating Detailer Direct Activities

Activity	Utilization Percentage	PO1 (E-6)	CPO (E-7)	SCPO (E-8)	MCPO (E-9)
Career Advisement by Telephone	12.98%	\$5,743.48	\$6,445.09	\$7,172.64	\$8,252.40
Responding to Emails Concerning Career Advisement	8.54%	\$3,781.60	\$4,243.55	\$4,722.58	\$5,433.51
Negotiating Orders by Telephone	10.09%	\$4,463.99	\$5,009.30	\$5,574.78	\$6,413.99
Responding to Emails Regarding Negotiation of Orders	6.49%	\$2,871.74	\$3,222.54	\$3,586.32	\$4,126.20
Verifying Billet Requisition Download from EPMAC	2.92%	\$1,290.86	\$1,448.55	\$1,612.07	\$1,854.75
Identifying Eligible Personnel for Detailing	3.43%	\$1,518.33	\$1,703.80	\$1,896.13	\$2,181.57
Requesting Detail Waivers	4.28%	\$1,893.64	\$2,124.96	\$2,364.84	\$2,720.84
Determining Cost of Proposed Orders	2.79%	\$1,233.99	\$1,384.74	\$1,541.05	\$1,773.04
Writing/Inputting Orders	4.63%	\$2,047.18	\$2,297.26	\$2,556.59	\$2,941.45
Processing NAVPERS 1306/7 Personnel Action Requests	4.02%	\$1,779.91	\$1,997.34	\$2,222.81	\$2,557.43
Processing Cross-Decks and Diverts in Support of EPMAC and MCA Requests	3.79%	\$1,677.55	\$1,882.48	\$2,094.98	\$2,410.35
Total	63.94%	\$28,302.27	\$31,759.61	\$35,344.80	\$40,665.53

Table 28. Annual Cost of Supply Rating Detailer Direct Activities

2. Indirect Detailing Activities

Table 29 presents the indirect detailing activities costs by paygrade for Administrative and Deck Rating Detailers. Table 30 presents the costs incurred by Supply Rating Detailers.

Activity	Utilization Percentage	PO1 (E-6)	CPO (E-7)	SCPO (E-8)	MCPO (E-9)
Attending Detailing Specific Training	1.64%	\$724.78	\$813.69	\$905.90	\$1,042.74
Attending Detailing Specific Meetings	2.06%	\$905.97	\$1,017.12	\$1,132.37	\$1,303.42
Preparing and Supporting Reports for Chain of Command	4.52%	\$1,991.72	\$2,236.07	\$2,489.45	\$2,865.49
Preparing or Supporting Presentations for Chain of Command	1.73%	\$764.41	\$858.19	\$955.44	\$1,099.76
Preparing or Supporting Fleet Reserve Applications	1.35%	\$594.54	\$667.48	\$743.12	\$855.37
Total	11.30%	\$4,981.42	\$5,592.55	\$6,226.28	\$7,166.79

Table 29. Annual Cost of Administrative and Deck Rating Detailer Indirect Activities

Activity	Utilization Percentage	PO1 (E-6)	CPO (E-7)	SCPO (E-8)	MCPO (E-9)
Attending Detailing Specific Training	1.64%	\$727.89	\$816.80	\$909.01	\$1,045.85
Attending Detailing Specific Meetings	2.06%	\$909.86	\$1,021.00	\$1,136.26	\$1,307.31
Preparing and Supporting Reports for Chain of Command	4.52%	\$2,000.27	\$2,244.61	\$2,498.00	\$2,874.04
Preparing or Supporting Presentations for Chain of Command	1.73%	\$767.69	\$861.47	\$958.72	\$1,103.04
Preparing or Supporting Fleet Reserve Applications	1.35%	\$597.09	\$670.03	\$745.67	\$857.92
Total	11.30%	\$5,002.80	\$5,613.93	\$6,247.66	\$7,188.17

Table 30. Annual Cost of Supply Rating Detailer Indirect Activities

3. Non-Detailing or Other Activities

Table 31 presents the other non-detailing related activities costs by paygrade for Administrative and Deck Rating Detailer. Table 32 presents the costs incurred for Supply Rating Detailers.

Activity	Utilization Percentage	PO1 (E-6)	CPO (E-7)	SCPO (E-8)	MCPO (E-9)
Attending Non-Detailing Specific Training	1.07%	\$469.97	\$527.63	\$587.42	\$676.15
Attending Non-Detailing Specific Meetings	2.06%	\$905.97	\$1,017.12	\$1,132.37	\$1,303.42
Physical Readiness Training	4.50%	\$1,981.81	\$2,224.94	\$2,477.07	\$2,851.24
Meals and Other Breaks	6.17%	\$2,717.91	\$3,051.35	\$3,397.12	\$3,910.27
Non-Detailing Related Telephone Calls	3.34%	\$1,472.20	\$1,652.81	\$1,840.11	\$2,118.06
Non-Detailing E-mail Activity	3.21%	\$1,415.58	\$1,589.24	\$1,769.33	\$2,036.60
Performing Collateral Duties	1.16%	\$509.61	\$572.13	\$636.96	\$733.18
Non-Detailing TAD Travel	0.11%	\$47.19	\$52.97	\$58.98	\$67.89
Special Liberty	0.41%	\$182.14	\$204.48	\$227.65	\$262.04
Regular Leave	1.96%	\$861.62	\$967.32	\$1,076.93	\$1,239.61
Preparing Evaluations or Fitness Reports	0.11%	\$47.19	\$52.97	\$58.98	\$67.89
Attending Medical and Dental Appointments	0.31%	\$136.84	\$153.63	\$171.04	\$196.87
Attending Legal or Attorney Appointments	0.02%	\$7.08	\$7.95	\$8.85	\$10.18
Total	24.40%	\$10,755.10	\$12,074.55	\$13,442.80	\$15,473.40

Table 31. Cost of Administrative and Deck Rating Detailer Other Non-Detailing Related Activities

Activity	Utilization Percentage	PO1 (E-6)	CPO (E-7)	SCPO (E-8)	MCPO (E-9)
Attending Non-Detailing Specific Training	1.07%	\$471.99	\$529.65	\$589.44	\$678.17
Attending Non-Detailing Specific Meetings	2.06%	\$909.86	\$1,021.00	\$1,136.26	\$1,307.31
Physical Readiness Training	4.50%	\$1,990.31	\$2,233.45	\$2,485.57	\$2,859.74
Meals and Other Breaks	6.17%	\$2,729.57	\$3,063.01	\$3,408.78	\$3,921.93
Non-Detailing Related Telephone Calls	3.34%	\$1,478.52	\$1,659.13	\$1,846.42	\$2,124.38
Non-Detailing E-mail Activity	3.21%	\$1,421.65	\$1,595.32	\$1,775.41	\$2,042.67
Performing Collateral Duties	1.16%	\$511.80	\$574.31	\$639.15	\$735.36
Non-Detailing TAD Travel	0.11%	\$47.39	\$53.18	\$59.18	\$68.09
Special Liberty	0.41%	\$182.92	\$205.26	\$228.44	\$262.82
Regular Leave	1.96%	\$865.31	\$971.02	\$1,080.63	\$1,243.31
Preparing Evaluations or Fitness Reports	0.11%	\$47.39	\$53.18	\$59.18	\$68.09
Attending Medical and Dental Appointments	0.31%	\$137.43	\$154.21	\$171.62	\$197.46
Attending Legal or Attorney Appointments	0.02%	\$7.11	\$7.98	\$8.88	\$10.21
Total	24.40%	\$10,801.25	\$12,120.70	\$13,488.95	\$15,519.55

Table 32. Cost of Supply Rating Detailer Other Non-Detailing Related Activities

4. Detailer Fleet Visit Activities

Table 33 presents the Detailer fleet visits activities costs by paygrade for Administrative and Deck Rating Detailer. Table 34 presents the costs incurred by Supply Rating Detailers.

Activity	Utilization Percentage	PO1 (E-6)	CPO (E-7)	SCPO (E-8)	MCPO (E-9)
Traveling to Visit Site	0.06%	\$25.13	\$28.21	\$31.41	\$36.15
Career Counseling Interviews	0.11%	\$49.19	\$55.23	\$61.48	\$70.77
Orders Negotiation Interviews	0.10%	\$43.29	\$48.60	\$54.11	\$62.29
Training or Presentations to Large Audience	0.01%	\$5.90	\$6.62	\$7.37	\$8.49
Communicating with PERS-405 Office	0.02%	\$7.43	\$8.34	\$9.29	\$10.69
Non-Detailing Related Work	0.02%	\$7.90	\$8.87	\$9.88	\$11.37
Physical Readiness Training	0.01%	\$3.89	\$4.37	\$4.87	\$5.60
Meals and Other Breaks	0.02%	\$9.32	\$10.46	\$11.65	\$13.41
Total	0.35%	\$152.06	\$170.71	\$190.06	\$218.76

Table 33. Cost of Administrative and Deck Rating Detailer Fleet Visit Activities

Activity	Utilization Percentage	PO1 (E-6)	CPO (E-7)	SCPO (E-8)	MCPO (E-9)
Traveling to Visit Site	0.06%	\$25.23	\$28.32	\$31.51	\$36.26
Career Counseling Interviews	0.11%	\$49.40	\$55.44	\$61.70	\$70.98
Orders Negotiation Interviews	0.10%	\$43.48	\$48.79	\$54.30	\$62.47
Training or Presentations to Large Audience	0.01%	\$5.92	\$6.65	\$7.40	\$8.51
Communicating with PERS-405 Office	0.02%	\$7.46	\$8.38	\$9.32	\$10.72
Non-Detailing Related Work	0.02%	\$7.94	\$8.91	\$9.91	\$11.40
Physical Readiness Training	0.01%	\$3.91	\$4.39	\$4.88	\$5.62
Meals and Other Breaks	0.02%	\$9.36	\$10.50	\$11.69	\$13.45
Total	0.35%	\$152.71	\$171.36	\$190.71	\$219.42

Table 34. Cost of Supply Rating Detailer Fleet Visit Activities

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V. CONCLUSION

A. SUMMARY OF RESULTS

1. Detailer Use of Resources

Detailer activities that consume resources can be categorized as either value adding or non-value adding to the detailing process. The Sailor perceives value-adding activities as beneficial and non-value-adding activities as non-beneficial or neutral to obtaining orders to a new duty station. Categorization of Detailer activities permits an analysis that highlights where efficiencies might be achieved if resources consumed in non-value adding activities are reduced or eliminated.

The theory of constraints focuses one's efforts on activities hindering the detailing process or consuming large quantities of the Detailer's time while not adding value to the assignment process' objective: orders for a Sailor that matches the right person with the right job at the right time. In addition, resources consumed in value-adding activities could be reallocated by reengineering the detailing process by human workflow improvements or increased use of information technology.

Information technology could be used in a support role or in direct detailing functions. The Job Advertising and Selection System (JASS) is an example of information technology performing functions previously completed entirely through the Detailer to Sailor interface. The billets available in nine months for a particular rating are posted on the Detailer's website every two weeks and Sailors submit their preferences electronically. Then, approximately every two weeks, before updating available billets, the Detailer analyzes all requests and makes the decision on the best fit of Sailor and billet. The key stages in the detailing process are provided below in Figure 12.

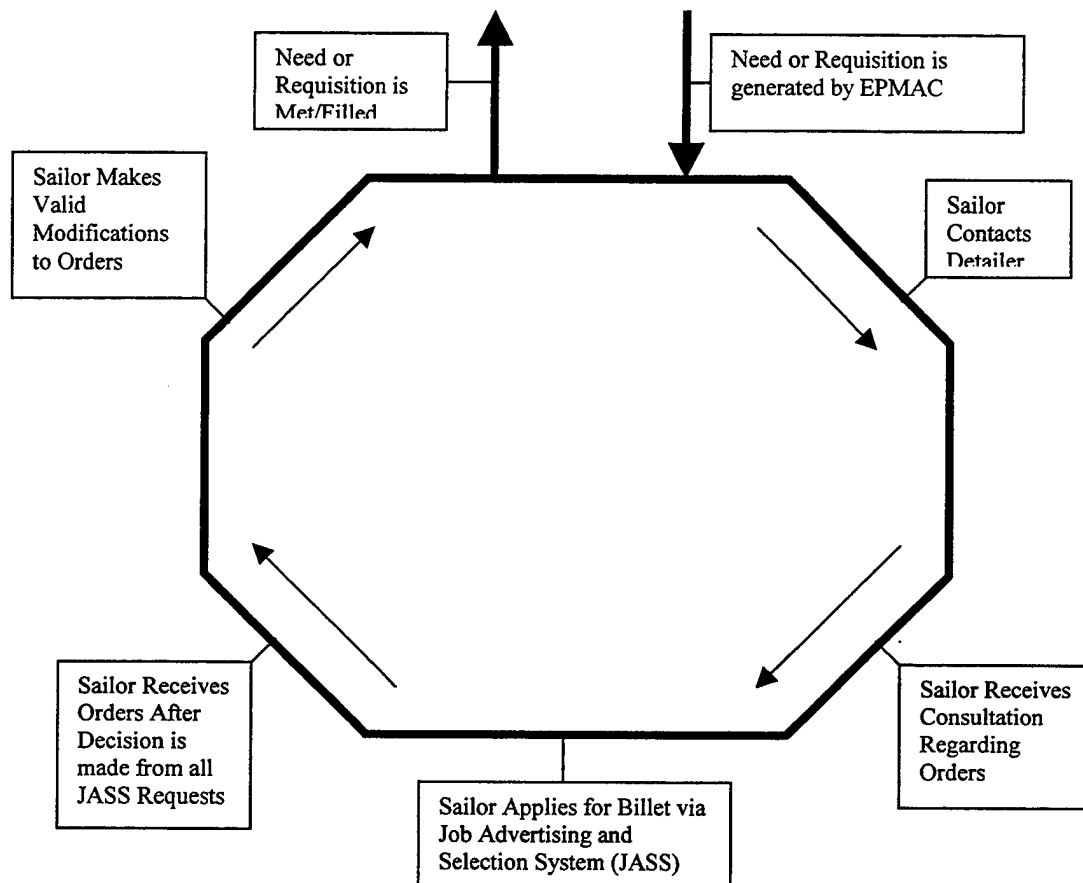


Figure 12. The Detailing Customer Service Cycle
From: PERS-405

a. Value-Adding Activities

Value-adding activities in the detailing process are those “direct detailing” activities presented earlier in Table 16. These activities constitute approximately 64 percent of the Detailer’s time. Direct detailing activities consume annual resources ranging from \$28,131.34 to \$40,665.53 per Detailer, depending on their rating and paygrade (Tables 27 and 28). The following direct activities are value adding to the detailing process.

- Providing career advise via telephone
- Preparing email responses regarding career advise

- Negotiating orders via telephone
- Preparing emails regarding orders negotiation
- Determining requisitions available
- Identifying qualified and eligible personnel in the nine month assignment window
- Requesting waivers from detail regulations for a Sailor
- Estimating costs of proposed orders
- Inputting orders for approval
- Processing NAVPERS 1306/7 Personnel Action Requests
- Processing cross-decks and diverts from EPMAC and MCA

Activities categorized as “Indirect Detailing” were presented earlier in Table 17. Sailors do not usually see indirect detailing activities although they support the detailing process and account for approximately 11 percent of the Detailer’s time. Indirect detailing activities consume annual resources ranging from \$4,981.42 to \$7,188.17 per Detailer, depending on their rating and paygrade (Tables 29 and 30). The following indirect activities are considered value adding for the purpose of this thesis’ analysis.

- Attending detailing subject matter training sessions
- Attending detailing topic oriented meetings
- Preparing or supporting reports for the NAVPERSCOM chain of command

- Preparing or supporting presentations for the chain of command
- Preparing or supporting fleet reserve applications

b. Non-Value-Adding Activities

The activities categorized as “Other Non-detailing” were presented earlier in Table 18. Other non-detailing activities consume approximately 24 percent of the Detailer’s time. These activities consume annual resources ranging from \$10,755.10 to \$15,519.55 per Detailer, depending on their rating and paygrade (Tables 31 and 32). The following activities are non-value adding to the detailing process.

- Attending non-detailing subject training
- Attending non-detailing topic meetings
- Navy Physical Readiness Training
- Meals and other breaks
- Non-detailing related telephone usage
- Non-detailing related email or computer usage
- Performance of non-detailing collateral duties
- Special liberty (time-off)
- Regular leave or vacation days
- Preparing personnel Evaluations or Fitness Reports
- Attending medical and dental appointments
- Attending legal and other appointments

2. Utilization of Resources

Detailers' activity costs are determined primarily by their paygrade and time used in performing detailing functions. The costs incurred or applied to these activities have characteristics that differ depending on the detailing organizational structure. The key variables that determine costs incurred are the number, rating or paygrade of Detailers and support staff assigned in the organization and, based on number of personnel assigned, an inherent relationship to office space utilized.

a. Direct Personnel Costs

Detailers' direct personnel costs are determined by the time spent performing the identified detailing functions. The Detailers' direct personnel costs, calculated by pay, allowance and benefit categories from the COMET Model Version 2.0 database, are determined by their paygrade and technical rating. A natural relationship in this calculation is the longevity of the Detailer's career. Longevity is an underlying function in the paygrade and rating variables because more senior personnel in terms of rank have generally been in the Navy for a longer period of time. The Detailers in PERS-405 are trained in relatively less technical oriented disciplines than other Sailors and therefore incur lower direct personnel costs than some other ratings in the Navy. For example, a Fire Control Technician who is trained in computer diagnostics and repair of missile and gun systems would incur a greater training and thus monetary Navy investment than a Yeoman who is trained to maintain administrative records and Navy correspondence.

Minimizing personnel costs can be achieved by reducing the total number of personnel or the paygrade of personnel assigned to serve as a Detailer. A large reduction of personnel is feasible only if another means of providing many detailing

functions could be implemented. Otherwise, the effectiveness of the detailing process may suffer as fewer Detailers perform the same functions, but with a larger constituency per Detailer.

Reducing the number of Detailers or paygrades assigned to detailing must consider that if a Sailor is not assigned as a Detailer, they will be placed in another billet where shortfalls for their skills exist. Therefore, the total cost to the Navy is not reduced but the cost of getting them to a new billet is minimized. In addition, a better utilization of the Sailor's skills will be achieved by assigning them to a billet technically compatible with the skills group in which they were trained and have the most experience. Greater effectiveness and efficiency in an organization is usually achieved by focusing on the organization or person's core competency. A Sailor's rating, or skills group, is their "core competency."

Reducing the paygrade of the Detailers may prove difficult to justify because Detailers serve a career counseling function that accounts for approximately 21 percent of their time (Tables 27 and 28). Similarly, possessing a higher rank creates greater legitimacy in the career-oriented information provided to the Sailor; human nature rarely allows one to seek career advice from a person junior to them in experience, although there are instances where this might be occurring in PERS-405. There are several Chief Petty Officer Detailers assigned to detail several rates including Sailors at their own rank plus up to two grades higher because a low number of personnel possess that particular rating. This situation can be justified though by the fact that once Sailors reach a certain level in their career, they are adequately informed to know what they need

to accomplish next in terms of type of duty assignment to advance to the next higher rank.

b. Other Direct Costs

Direct material, utility, maintenance and repair, and communication costs incurred by the detailing process are independent of the rating and paygrade variables, which determine direct personnel costs. The "Other Direct Costs" used in this thesis were based either on the number of personnel assigned, square footage of office space occupied or intangible variables.

Direct material costs for a specific detailing code or branch, such as PERS-405 is a function of the number of assigned personnel, including Detailers and support staff; and the number of Sailors or customers they service. A reduction in the number of detailers, increased use of electronic methods of communication, and increased use of electronic document distribution could reduce this cost. In this thesis, \$4,000 of direct material costs per year or \$88.89 per Detailer is not very significant when the cost per Detailer was calculated as ranging between \$40,071.69 and \$63,595.21 (Tables 24 through 26).

Utility, maintenance and repair costs incurred represent an allocation of costs by square footage of the office building occupied by the detailing branch being studied and were presented in Tables 12 through 15. The costs allocated per Detailer are a function of the size of the office and number of personnel. Two offices of similar size but significantly different occupancy levels would result in a different cost per Detailer. Similarly, if the number of detailers were reduced and consolidated into fewer offices within the building, some of the utility costs could be avoided contingent upon a Non-

NAVPERSCOM activity occupying the vacated office and the utility costs subsequently being allocated to the new activity's command.

Total communication costs are a function of the number of Detailers assigned. Communication cost per Detailer depends on the individual personality and work ethic of the Detailer to return phone calls and initiate unsolicited phone calls to their assigned "Rollers." Communication costs, excluding computer data lines and Defense Switching Network (DSN), are summarized in Table 10. Regardless of the intangible variables associated with each Detailer, NAVPERSCOM incurs a minimum annual charge of \$352.80 without using the phone for toll call usage. Reducing the number of Detailers without a proportional reduction in the number of Sailors they support would only decrease communication costs by \$352.80 per phone line removed.

3. Detailer Incurred Cost Per Detail

The cost that can be attributed to Detailer activities and resources consumed were summarized in Tables 23 through 26. Figure 13, on the following page, displays graphically the reduction of average cost per detail in the range from 200 to 750 Sailors. Table 35 displays the data used to plot the graph in Figure 13 and computes the average cost for all three PERS-405 ratings, Administrative, Deck and Supply, within a Detailer rank in computing the average cost.

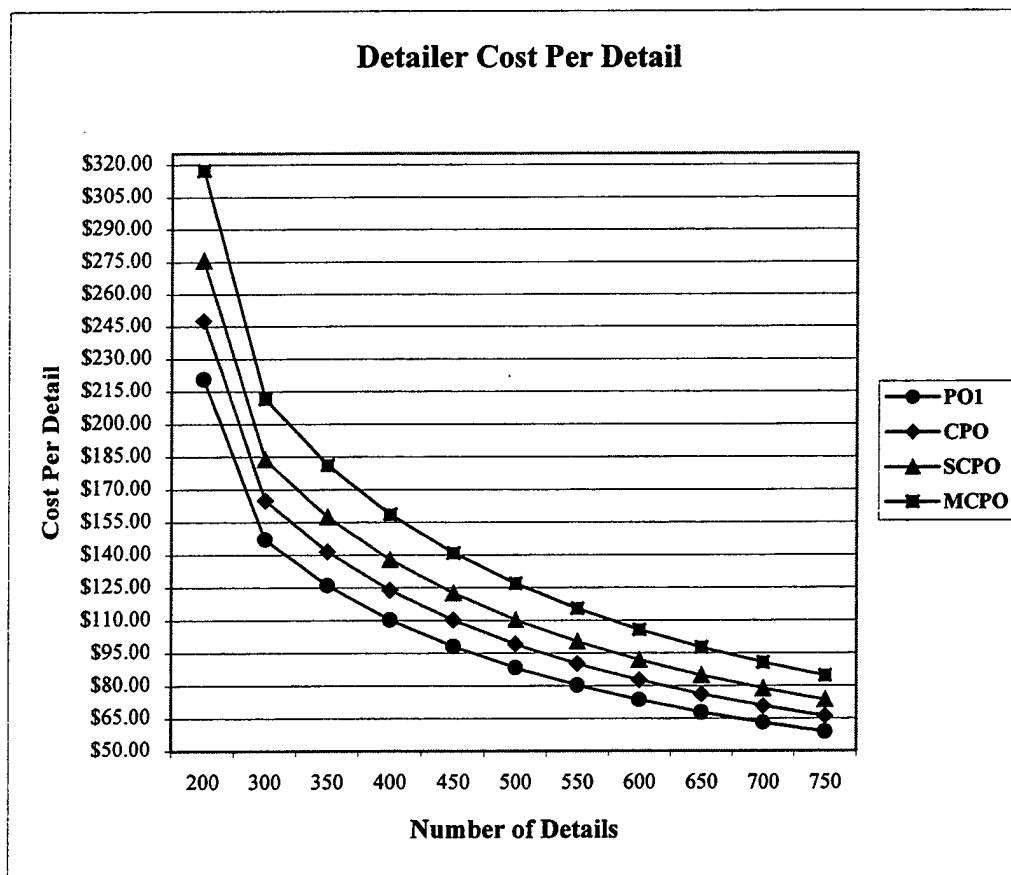


Figure 13. PERS-405 Detailer Unit Cost per Detail

Nr of Details	First Class Petty Officer (PO1/E-6)	Chief Petty Officer (CPO/E-7)	Senior Chief Petty Officer (SCPO/E-8)	Master Chief Petty Officer (MCPO/E-9)
200	\$220.67	\$247.71	\$275.74	\$317.35
300	\$147.12	\$165.14	\$183.83	\$211.56
350	\$126.10	\$141.55	\$157.57	\$181.34
400	\$110.34	\$123.85	\$137.87	\$158.67
450	\$98.08	\$110.09	\$122.55	\$141.04
500	\$88.27	\$99.08	\$110.30	\$126.94
550	\$80.24	\$90.08	\$100.27	\$115.40
600	\$73.56	\$82.57	\$91.91	\$105.78
650	\$67.90	\$76.22	\$84.84	\$97.64
700	\$63.05	\$70.77	\$78.78	\$90.67
750	\$58.85	\$66.06	\$73.53	\$84.63

Table 35 PERS-405 Average Detailer Unit Cost per Detail

B. CONCLUSION

The Personnel Command assigns over 100,000 Sailors annually utilizing in excess of 200 Detailers. The detailing process is a labor-intensive procedure where approximately 25 percent of the Detailer's time, or 911 hours annually, is occupied performing non-detailing activities. This portion of workdays can account for as little as \$10,577.21 or as much as \$15,262.85 per Detailer annually, depending on their paygrade. Using an average cost of \$12,290.03 over 200 Detailers, this equates to \$2,584,006 in Department of the Navy funding that is consumed by Sailors working out of their core competency or rating and not involved in detailing activities.

Approximately 75 percent of a Detailer's time is occupied by direct or indirect detailing activities. This equates to an annual cost per detailer between \$33,181.14 to \$47,853.70, depending on their rank. When these amounts are annualized and made to account for approximately 200 Detailers, it results in an approximate cost of detailing per year, at the individual detailing office level, totaling \$8,103,484.00 when using an average non-weighted cost per Detailer of \$40,517.20. This figure does not include the PERS-40 or the Assignment Branch (PERS-4) levels of the NAVPERSCOM organization and the respective costs that would be allocated further to the individual detailing offices.

Future research in the areas of the Department of the Navy's manpower distribution system should bring greater efficiencies to the detailing process, both monetarily and ensure each sailor an equal opportunity for a desired billet. However, any increases in efficiency should not decrease the effectiveness of the current system or the attributes and that the Sailors depend on to make informed decisions.

C. RECOMMENDATIONS FOR FUTURE RESEARCH

There are several opportunities to expand on this research regarding the cost detailing and the Department of the Navy's assignment system that were not pursued due to the time constraint in preparing this thesis.

1. Increased Scale of Research

The sample size of 15 Detailers in this thesis was relatively small compared to the total population of over 200 Detailers. Therefore, a larger sample size of Detailers, Rating Assignment Officers, Branch Heads, and administrative support staff would provide a more accurate activities distribution for analysis.

2. Increased Scope of Research

A vertical expansion in the research would encompass overhead costs incurred by the Enlisted Assignment Branch (PERS-40), including various program management costs. These costs would be allocated as overhead to the individual detailing offices and subsequently reflect costs NAVPERSCOM incurs in their detailing function. This added research would require ascertaining the functions performed at the PERS-40 level and categorization of these activities as value adding or non-value adding to the detailing process. These two steps would also classify the resources consumed by PERS-40 either as direct, indirect or general overhead.

3. Detailing Information Technology Support

The Information Technology (IT) support functions, to include hardware and software, were not included due to time constraints and the focus of this thesis. Therefore, a process and costing study to include functions and activities performed by the IT support offices at NAVPERSCOM and EPMAC may prove beneficial. This analysis should describe the systems used, the purpose of each system, if or how they

interface, and the costs associated with upgrading and maintaining the systems as well as supporting system users in the EPMAC and NAVPERSCOM organizations.

Upon completion, the costs associated with identified IT systems and functions could then be allocated to Detailer resources consumed to calculate a more comprehensive cost figure for the Navy to execute a detail. In addition, once a model has been developed, it could be used in future cost-benefit analysis projects when considering a revision, replacement, or implementation of IT systems.

APPENDIX



Naval Postgraduate School

Monterey, California

Dear Survey Participant,

This survey instrument is designed to provide supporting data for research on an Activity Based Costing Study of the Department of the Navy's assignment function. The information you provide will be used as data supporting a masters degree thesis in financial management at the Naval Postgraduate School in further support of research sponsored by Navy Personnel Research, Studies and Technology (NPRST). If you have any questions please contact me at the Naval Postgraduate School at DSN 878-2070, at home (831) 583-9775 or by email at rjschleg@nps.navy.mil. Thank you for your assistance.

Sincerely,

Richard J. Schlegel
LCDR SC USN

Background Information

The information requested in this section is for calculating average direct personnel cost using the Cost of Manpower Estimating Tool (COMET). It will not be used in conjunction with the "Activities Performed" section to report specific individual activity but will be used to determine an aggregate average utilization of available work days, weeks, months and year by certain rank or pay grade levels and then the costs that can allocated to these activities.

1. What is your pay grade and rank? _____ / _____
2. What is your rating? _____
3. What NECs or other special qualifications do you hold?

4. Please enter years of service as shown on your most recent LES: _____
5. How many years and months have you been assigned as a Detailer?
_____ Yrs / _____ Months
6. What is the approximate total number of constituents that
you are responsible for in your billet? _____

Activities Performed

1. In an 8-hour workday, approximately how many hours do you perform the following activities? (Fractions or decimals are acceptable)

- a. Career Advisement by Phone _____
- b. Career Advisement by Email _____
- c. Negotiating Orders by Phone _____
- d. Negotiating Orders by Email _____
- e. Physical Readiness Training _____
- f. Meals and Other Breaks _____
- g. Non-Detailing Specific Phone Calls _____
- h. Non-Detailing Specific Emails _____

2. In a 40-hour week, approximately how many hours do you perform the following activities?

- a. Attend Detailer Specific Training _____
- b. Attend Non-Detailer Specific Training _____
- c. Attend Detailing Specific Meetings _____
- d. Attend Non-Detailing Meetings _____
- e. Verify Requisition Download _____
- f. Identifying Eligible Personnel for Detailing _____
- g. Requesting Detail Waiver Approval _____
- h. Costing Orders _____
- i. Writing Orders _____
- j. Processing 1306/7 Personnel Action Requests _____

3. In a 30-day month (160 hours), approximately how many hours do you perform the following activities?

- a. Preparing/Supporting Reports for Chain of Command _____
- b. Preparing/Supporting Presentations for Chain of Command _____
- c. Preparing/Supporting Fleet Reserve Applications _____
- d. Processing cross-decks and diverts to support
EPMAC and MCA Requests _____
- e. Performing Collateral Duties _____

(1) Please List the Collateral Duties Assigned and

Hours utilized throughout the month in each
assignment

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

4. Annually, approximately how many days are you in the following status or function?

- a. Detailer Visit TAD Travel _____
- b. Non-Detailer Specific Related TAD Travel _____
- c. Special Liberty _____
- d. Leave _____

5. When in a TAD status for a detailer visit, approximately how many hours of an 8-hour workday are used in the following activities?

- a. Travel time _____
- b. Career Counseling with Constituents _____
- c. Negotiating Orders with Constituents _____
- d. Presenting Information to large audience _____
- e. Communicating with Office (PERS405) _____
- f. Working on non-detailer specific work _____
- g. Physical Readiness Training _____
- h. Meals and Other Breaks _____

6. Annually, approximately how many hours do you perform the following activities?

- a. Preparing Evaluations/FITREPs _____
- b. Medical and Dental Appointments _____
- c. Legal (Attorney) Appointments _____

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